

VISHNEVSKIY, A.A. ' professor, predsedatel'; CHISTOVA, M.A., sekretar'; KESHISHEVA, A.A.; KRICHEVSKIY, A.A., kandidat meditsinskikh nauk; UTESHEV, S.S., kandidat meditsinskikh nauk; BEGEL'MAN, A.A., kandidat meditsinskikh nauk; YELANSKIY, N.N.; ZATSEPIN, T.S. professor; PLOTKIN, F.M., professor; PATSIORA, M.D.; KAZANSKIY, V.I., professor; TROYAN, I.V.; FEDOROV, I.P.; FILIPPOV, A.V.; UTESHEV, S.S.; DOROFYEV, V.I.

Minutes of the session of the Surgical Society of Moscow and Moscow Province of September 26, 1952. Khirurgia no.3:92-95 Mr '53. (MLRA 6:6)

1. Khirurgicheskoye obshchestvo Moskvyy i Moskovskoy oblasti. 2. Fakul'tetskaya khirurgicheskaya klinika sanitarno-gigiyenicheskogo fakul'teta I Moskovskogo ordena Lenina meditsinskogo instituta (for Krichevskiy).
(Heart--Surgery) (Arteries--Diseases)

KRICHEVSKIY, A.L., student V kursa (Kuybyshev)

Results of a mass survey of the population of one of the districts
of Kyubyshev Province for detection of hypertension. Klin. med.
32 no.8:66-68 Ag '54. (MLRA 7:10)

1. Iz fakul'tetskoy terapevticheskoy kliniki (zav. prof. N.Ye.
Kavetskiy) Kuybyshevskogo meditsinskogo instituta.
(HYPERTENSION, statistics,
Russia)

KRICHEVSKIY, A.L.

Removal of a case of pancreatic cystadenoma. Khirurgia 35
no.2:111-112 F '59. (MIRA 12:5)

1. Iz Gorodskogo onkologicheskogo dispansera (glavnyy vrach
P.D.Yarysheva) Rostova-na-Donu.
(PANCREAS, neoplasms,
cystadenoma (Rus))

BARKOV, D. A.; KRICHEVSKIY, A. L.

Deep lipomas of the neck. Vop. onk. 7 no.9:89-92 '61. (MIRA 14:12)

1. Iz kliniki propedevticheskoy khirurgii (zav. - prof. S. P. Shilovtsev) Kuybyshevskogo meditsinskogo instituta.

(NECK—TUMORS)

SHILOVTSOV, S.F., prof.; BESPALOV, G.S., doktor med. nauk; SERBULOV, A.S.,
kand. med. nauk; SHEOL'NIKOVA, S.A.; ZHICHANSKIY, A.I.

Preventive and therapeutic effects of magnesium and calcium salts
and of bromides in malignant tumors. Vest. khir. no.12:14-22 '62.
(SIRA 17:11)

1. Iz kliniki obshchey khirurgii (zav. - prof. S.F. Shilovtsov)
Kuybyshevskogo meditsinskogo instituta. Adres avtorov: Kuybyshev,
meditsinsky institut, klinika obshchey khirurgii.

SHILOVTSEV, S.P., prof.; SHILOVTSEVA, A.S., kand. med. nauk; SHKOL'NIKOVA,
S.A.; KRICHEVSKIY, A.L., aspirant

Prophylactic and therapeutic action of magnesium and calcium
salts and bromides on malignant tumors. Trudy Kuib. med. inst.
24:11-31 '63 (MIRA 17:4)

1. Iz kafedry obshchey khirurgii (zab. -- zasluzhennyy deyatel'
nauki prof. S.P. Shilovtsov) Kuybyshevskogo meditsinskogo insti-
tuta.

KRICHEVSKIY, A.L.

Effect of calcium bromide on experimental malignant tumors.
Trudy Kuib. med. inst. 24:39-56 '63 (MIRA 17:4)

1. Iz kafedry obshchey khirurgii Kuybyshevskogo meditsinskogo
instituta. Nauchnyy rukovoditel': zasluzhennyy deyatel' nauki
RSFSR prof. S.P. Shilovtsev.

KRICHEVSKIY, A.L.

Some problems of the preservation of gastroduodenal continuity
in gastric resection. Khirurgiia 40 no.8:23-26 Ag '64.

(MIRA 18:3)

1. Khirurgicheskoye otdeleniye (zav. A.L. Krichev-kiy) Khartsyzskoy
rayonnoy bol'nitsy (glavnyy vrach I.K. Karmazin) Donetskoy oblasti.

DC: BROVSKIY, Aleksandr Iosifovich; KRICHEVSKIY, A.S., dots., retsen-
zent; BESSTRASHNIKOVA, M.I., red.; MARINYUK, M.V., tekhn.
red.

[Roentgenology] Rentgenologiya. Rostov-na-Donu, Rostovskoe
knizhnoe izd-vo, 1961. 221 p. (MIRA 15:4)
(RADIOLOGY, MEDICAL)

KRISHCHENKO, A. G.

Direct and alternating current crane braking electromagnets; manual on their selection, installation and maintenance. Moskva, "Echidat, 1953. 56 s. (54-16910)

TJ1363.k73

105-9-31/32

AUTHORS: Uspenskiy, B.S., Dotsent, Krichevskiy, A.S., Engineer,
Berlin, I.A., Engineer

TITLE: Review of the Book by M.M.Sinayskiy "Electrical Drive of Stop
Sluices for Waterworks" (Bibliografiya: M.M.Sinayekiy
"Elektricheskiy privod zatvorov gidrosooruzheniy")

PERIODICAL: Elektrichestvo, 1957, Nr 9, pp. 91-92 (USSR)

ABSTRACT: Published by Gosenergoizdat, 200 pages, price Roubles 6,75.
Sinayskiy is a leading specialist in this domain. Most of the
stop sluices in the USSR were built under his supervision. The
book consists of XIII chapters, it is short and precisely written;
formulation is distinct and clear.

1. Chapter: General evaluation of the peculiarities of electrical
drive. 2. Chapter: Determination of the load of electromotors.
3. Chapter: Mechanical properties. 4. Chapter: General methods
for the construction of the natural and rheostat characteristics
of three-phase motors. 5. Chapter: Thermal calculations of
electromotors. 6. Chapter: Characteristic schemes of the power
circuits and the basic nodes of control power circuit schemes.
7. Chapter: Methods for the determination of the amount of start-
ing- and regulation resistances and of the selection of normal
resistance cases according to computation data. 8. Chapter:
Electrical safety devices. 9. Chapter: Basic technical data on

Card 1/2

Review of the Book by M.M.Sinayskiy "Electrical Drive of Stop Sluices for Waterworks" 105-9-31/32

the apparatus used for the electric drive of stop sluices.
10. Chapter: Signaling devices. 11. Chapter: Various systems of synchronous compounds. 12. Chapter: Energy supply of the sluices. 13. Chapter: Practical indications for the adjustment and testing of the various elements of the electrical drive of lock sluices.

ASSOCIATION: Gidroenergoprojekt

AVAILABLE: Library of Congress

Card 2/2

BRUYTER, Mikhail Yefimovich; KRICHEVSKIY, Aron Samuilovich;
SIMAYSKIY, M.M., red.; BORUNOV, N.I., tekhn.red.

[A.c. and d.c. brake electromagnets] Tormoznye elektromagnity
postoiannogo i peremennogo toka. Moskva, Gos.energ.izd-vo,
1960. 63 p. (Kranovoe elektrooborudovanie, no.7).

(MIRA 14:2)

(Cranes, derricks, etc.--Brakes) (Electromagnets)

KRICHEVSKIY, A.Yu.; NIKHINSON, I.M.

A case of ornithosis. Vrach.delo no.2:191 F '59.

(MIRA 12:6)

1. Klinika infektsionnykh bolezney (zav. - prof.I.R.Braude
[deceased]) Khar'kovskogo meditsinskogo instituta i oblastnaya
sanitarno-epidemiologicheskaya stantsiya.
(ORNITHOSIS)

KRICHEVSKIY, Boris Yur'yevich [deceased]; BASHILOVA, Zineviya Andreyevna;
LYUBAN, Semen Borisovich; MITEL'MAN, Ye., etvetstvennyy redaktor;
PROSHINA, L., redaktor izdatel'stva; DZHATIYEV, S., tekhnicheskii
redaktor.

[Control of expenditures for wages in industry] Kontrol' za raskhode-
vaniem fondov zarabotnoi platy v promyshlennosti. Moskva, Gosfinisdat,
1956. 149 p. (MLRA 10:4)

(Wages)

KAZARINOV, V.M., kand. tekhn. nauk; KRICHEVSKIY, A.Z., inzh.

All-purpose construction machinery. Stroil. i dor. mash. 9 no.2:
14-20 F '64. (MIRA 18:7)

1. KRICHEVSKIY, G. G.; Simon, K.R.
2. USSR (600)
4. Abstracting and Indexing Services
7. Soviet periodicals of abstracts and problems pertinent to its organization.
Vest. AN SSSR 22 no 9 1952.

9. Monthly List of Russian Accessions, Library of Congress, January, 1953. Unclassified.

KRICHEVSKIY, G.M.

PHASE I

TREASURE ISLAND BIBLIOGRAPHIC REPORT

0000058

BOOK

Call No.: TN626.T54

- Authors: EFROIMOVICH, Yu. E., Cand. of Tech. Sciences
- KRICHEVSKIY, G.M., Engineer
- LEVITANSKIY, B.A., Engineer
- MALAYA, R. Yu., Cand. of Tech. Sciences, deceased
- NEIFAKH, G.M., Cand. of Tech. Sciences
- POPOV, M.D., Engineer
- SMORODINSKIY, I.A. M., Cand. of Tech. Sciences
- SOSUNOV, M.N., Engineer
- STASYUK, V.N., Engineer
- TAITS, A.A., Engineer
- FEDOSEEV, L.M., Engineer
- FEIGIN, V.I., Engineer
- CHELYUSTKIN, A.B., Engineer
- SHERENTSIK, A.N., Engineer

Full Title: A HANDBOOK FOR ELECTROTECHNICAL PERSONNEL IN FERROUS METALLURGICAL INDUSTRIES.

Transliterated Title: Spravochnik elektrika predpriyatii chernoi metallurgii

Publishing Data

Originating Agency: None

Publishing House: State Publishing House of Scientific-Technical Literature on Ferrous and Nonferrous Metallurgy (Metallurgizdat). Moscow.

Date: 1952

No. pp.: 1167

No. copies: 14,000

Editorial Staff

KRICHEVSKIY, G.M.

2/2

00000058

Full Title: A HANDBOOK FOR ELECTROTECHNICAL PERSONNEL IN FERROUS METALLURGICAL INDUSTRIES

Call No.: TNC86.T54

Editorial Staff

Compiler: Tikhomirov, I.G., Engineer

Technical Editor: None.

Editors: Shalyapin, M.G.

Appraiser: None.

Levitanskiy, B.A.

Text Data

Coverage: A detailed handbook containing technical data on specifications, standards, design and operation of various types of electrical equipment in ferrous metallurgical industries; electric power supply plants and their distributing systems, transforming stations and transmission lines (high and low tension), blast furnace works, rolling mill plants, open-hearth plants, mines, electrical steel smelting and ferroalloy furnaces, sintering plants, coke plants, and electrical transport. Tables and diagrams. Subject index.

Purpose: A handbook for electrotechnical personnel, engineering technicians, machine operators, and planning personnel of metallurgical industries.

Facilities: None.

No. of Russian references: References listed at end of each chapter.

Available: Library of Congress.

KRICHEVSKIY, G.; TOLYPIN, Yu.

New forms of production relations of agricultural enterprises.
Vop. ekon. no.3:38-49 M^r '61. (MIRA 14:3)

1. Predselatel' Naro-Fominskogo raykolkhozsoyuzo Moskovskoy oblasti.
(Novo-Fominsk District—Collective farms—Interfarm cooperation)

BYKOV, G.A., inzh.; BIRFEL'D, A.G., inzh.; GENDEL'MAN, B.R., inzh.;
YEGORYCHEV, G.M., inzh.; KRICHEVSKIY, G.M., inzh.;
PISTRAK, M.Ya., inzh.; TAYTS, A.A., kand. tekhn. nauk;
FRIMES, A.P., inzh.; GOL'DIN, Ya.A., glav. red.; IVANOV, A.N., red.;
LANOVSKAYA, M.R., red. izd-va; DOBUZHINSKAYA, L.V., tekhn.red.

[Electric power engineering] Elektroenergetika. [By] G.A. Bykov i
dr. Moskva, Metallurgizdat, 1962. 190 p. (MIRA 16:4)
(Electric motors) (Automatic control)
(Metallurgical plants--Electric equipment)

ZORIKIN, I.M.; KRICHINSKIY, G.II.

Projects for finding gas and conditions governing the
formation of Heugens gas pools in the Caspian Lowland.
Trudy VNIIGAZ no. 25:40-45 '65. (IIEA 16:12)

SOKOLOV, V.L.; BUSH, E.A.; KRICHEVSKIY, G.N.; MEDVEDEV, N.F.; POLYAKOVA, Ye.G.

Structure of the subsalt Paleozoic in the Caspian Lowland. Dokl. AN
SSSR 162 no.6:1370-1373 Je '65. (MIRA 18:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut prirodnogo gaza.
Submitted April 3, 1964.

Кричевский, Г. Я.

AUTHORS: Burovoy, I.A., Krichevskiy, G.Ya. and Shtekarev, L.M. 136-58-3- 21

TITLE: Development of arrangements for removing excess heat from a fluidized bed for roasting granulated copper-zinc concentrate at a high productivity (Razrabotka ustroystv ot'yema izbytochnogo tepla kipiyashchego sloya dlya obzhiga granulirovannogo medno-tsinkovogo kontsentrata pri vysokoy proizvoditel'nosti)

PERIODICAL: Tsvetnyye Metally, 1958, Nr.3. pp. 30 - 38 (USSR)

ABSTRACT: A limiting factor in the productivity of fluidized-bed roasting of sulphide ores in roasters of 1.5m² hearth area and over, though this is not evident in laboratory-scale installations because of higher wall-area: hearth area ratios. The authors describe work at Gintsvetmet and the Sredneural'skiy copper-smelting works on a 1.5-m² hearth area roaster with water-cooled sides and divided into three zones by two water-cooled blocks, each consisting of three plates with evaporative cooling (figs.1 & 2). Degtyar copper-zinc concentrate pelletised in a drying drum was used, the roasting being continued to 5-8% S in the residue and to enable the daily rate of roasting to be raised to 13 tonnes of sulphur/m² two of the zones of the roaster were provided with additional cooling in the form of vertical cooling coils directly in the bed. The rate of heat removal was 530,000 kcal/m³ of bed, the vertical-tube coolers being the most effective, while a simultaneously installed water-injection system had comparatively little effect (table 3).

Card 1/2

Development of arrangements for removing excess heat from a fluidized bed for roasting granulated copper-zinc concentrate at a high productivity. 136-38-3-6/21

The authors give details of the procedure used for casting the blocks (fig.3), describe the difficulties encountered in starting up a roaster with such effective cooling, and outline the tedious procedure which, in the absence of blast-heating facilities, had to be adopted. They give in a diagrammatic form (fig.4) comparative data on productivity and specific firing rates for fluidized-bed roasting of various sulphide materials at the Voskresenskiy chemical combine as well as at the Sredneural'skiy and zinc works. The following personnel of the Sredneural'skiy works are named as having participated in the work: Ye.S. Alekseyev, T.F. Kirova, P.V. Bryantsev, L.I. Burma, E.G. Klyayn, M.P. Bryantseva, V.K. Vinokurov, V.P. Grishanov, A.V. Postogonov, and A.P. Ol'kov. The Grintsvetmet personnel were I.T. Matvoyev and M.I. Mantsevich. There are 4 figures, 3 tables and 3 Slavic references.

ASSOCIATION: Grintsvetmet i Sredneural'skiy Medeplavil'nyy Zavod (Grintsvetmet and the Sredneural'skiy Copper Smelting Works)
AVAILABLE: Library of Congress.

- 1. Sulphide ores-Processing-Equipment
- 2. Heat transfer-Equipment

Card 2/2

KRICHEVSKIY, G.Ya.; D'YACHKO, A.G.

More precise mathematical model of roasting a granulated
copper-zinc charge in a fluidized bed. Sbor. nauch. trud.
Gintsvetmeta no.21:146-157 '64. (MIRA 18:8)

BUPOVO", I.A.; KNICHEVSKIY, G.Ya.

Full automation of a metallurgical plant on the example of
a plant for the roasting of a granulated copper-zinc charge
mixture in a fluidized bed. Sbor. nauch. trud. Gintsvetmeta
no.21:441-453 '64. (MIRA 18:8)

ALEKSEYEV, Ye.S.; ZASYPIN, N.S.; SHTOKAREV, A.D.; BUROVOY, I.A.; KRICHEVSKIY,
G.Ya.; BOROVKOV, Ye.G.; KUZNETSOV, Yu.A.

Utilization of the excess heat of the fluidized bed of roasting furnaces.
Prom. energ. 20 no.5:43-4" My '65.
(MIRA 18:7)

KORSUNSKIY, V.I.; KRICHEVSKIY, G.Ya.

Homogram for calculating heat conditions of furnaces for the
roasting in a fluidized bed of copper-zinc concentrates and
charge mixtures. TSvet. met. 38 no.8:38-42 Ag '65.

(MIRA 18:9)

ERICHENYIY, G.Ya.; BOISHEVYIY, V.I.

Experimental determining of the coefficient of heat transfer in
furnaces with a fluidized bed for the roasting of sulfide
materials. Khim.prom. 41 no. 6:441-444 1966.

(MIRA 18:6)

AUTHOR: Ol'skiy, Yu. Ya.
TITLE: Conference on Fluidized-bed Roasting (Sovetskhanlye po obrabotke v kiplyashchen slaye)
PERIODICAL: Tavnyaye Metall, 1959, Nr 3, pp 79 - 80 (USSR)
ABSTRACT: The author notes, with some examples, the wide use being made in the Soviet non-ferrous metal industry of fluidized bed roasting processes. To facilitate exchange of such processing experience and promote the further development of such processes a conference was held at the "Elektrotishina" plant in Ordzhonikidze at the end of 1958. The conference was convened by the Nauchno-tekhnicheskoye obshchestvo tsvetnykh metallurgii (Scientific-Technical Society for Non-ferrous Metallurgy) together with the GUKh NIIM and the State Scientific Center of the All-Union Academy of Sciences of the USSR. The conference was held in the city of Ordzhonikidze. The reports heard by the conference were the following: A. K. Terbovskaya and A. M. Malits (NIIM), analyzing the operation of fluidized roasters in the chemical industry; Yu. I. Sabchuk and A. I. Vinov of the Yuzhno-Ukrainskiy khimicheskiy kombinat (South Ukrainian Chemical Combine) on heat utilization in pyrites roasting; by I. A. Buravoy, I. P. Bernitskaya and G. M. Kalcharyk (Gintsvetmet) on the study and introduction of automatic fluidized roaster control and coordination problems; by A. G. Kostin (NIIM) and others on the fluidized roasting of iron pyrites (NIIM) on the basis of the experience of fluidized roasting discussed at the conference. The conference discussed the results of research and its introduction and recommended measures were drawn to improve operating methods. Attention was also drawn to the need for the development of the fluidized-bed roasting process in the USSR. The conference made detailed recommendations for the adoption of these processes. The presidium of the Society explored the results of the conference and the Society explored the results of the research and the experience of the research and the results of the conference are due to be published by the Society.

Card 1/2

Card 2/2

KRICHEVSKIY, G.Ya.; D'YACHKO, A.G.

Mathematical description of the dynamic properties of a furnace
for fluidized bed roasting of a granulated copper-zinc mixture.
TSvet.met. 34 no.9:34-42 S '61. (MIRA 14:10)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut tsvetnykh
metallov.
(Metallurgical furnaces) (Fluidization)

KRICHEVSKIY, G.Ye.; SADOV, F.I.

Methods of determining carboxyl groups in cellulosic materials.

Izv. vys. ucheb. zav.; tekhn. teks. prom. no. 2:115-119 '61.

(MIRA 14:5)

1. Moskovskiy tekstil'nyy institut.
(Cellulose--Testing)

KRICHEVSKIY, G.Yo.; SADOV, F.I.

Studying the dyeing of cellulose fibers with active dyes. Report
No.1: Mechanism of the reaction of active dyes with the functional
groups of the elementary chains of cellulose and some other
natural polysaccharides. Izv.vys,ucheb.zav.; tekhn.takst.prom.
no.3:102-109 '61. (MIRA 14:7)

1. Moskovskiy tekstil'nyy institut.
(Dyes and dyeing--Cellulose)

FRICHEVSKIY, G.Ye.; SADOV, F.I.; BOYKO, N.N.

Studying the process of dyeing cellulose filters with active dyes.
Report No.3: Effect of the structure of active dyes on the resistance to saponification of the dye-fiber ether bond. Izv. vys.-uchebn.zav.; tekhn.tekst.prom. no.6:100-107 '61. (MIRA 15:1)

1. Moskovskiy tekstil'nyy institut.
(Dyes and dyeing--Cellulose)

SADOV, F.I., prof., doktor tekhn. nauk; KRICHEVSKIY, G.Ye., prepodavatel'

Active dyes. Tekst. prom. 22 no.7:47-54, JI '62.

(MIRA 17:1)

1. Moskovskiy tekstil'nyy institut.

KRICHEVSKIY, G.Ye., prepodavatel'; SADOV, F.I., prof.

Continuous methods of dyeing cellulose fiber fabrics with dichlorotriazine active dyes. Tekst.prom. 22 no.2:48-52 F '62.

(MIRA 15:3)

1. Moskovskiy tekstil'nyy institut.
(Dyes and dyeing--Cellulose)

SADOV, F.I., prof., doktor tekhn.nauk; KRICHEVSKIY, G.Ye., assistant,
kand.tekhn.nauk

Quantitative determining of the reactive and hydrolized forms in
technical active dyes. Tekst.prom. 22 no.9:29-31 S '62.
(MIRA 15:9)

1. Moskovskiy tekstil'nyy institut.
(Dyes and dyeing--Chemistry)

KRICHEVSKIY, G.Ya.; KORSUNSKIY, V.I.; DENISOVA, I.A.

Waste heat utilization in the roasting of granulated copper-zinc charge mixtures in a fluidized bed. TSvet. met. 36 no.10: 35-40 0 '63. (MIRA 16:12)

KATS, A.; KRICHEVSKIY, I.; RAYMAN, R. (Kiyev)

Vending machine for selling milk in glasses. Sov. toz. 33 no.5:
44-46 My '60. (MIRA 13:11)
(Kiev--Vending machines)

KRICHEVSKIY, I.

BOGOLYUBOV, B. - KRICHEVSKIY, I.

Moving-picture Projectors

Standardization of drawings for spare parts. Kinomekhanik no. 11, 1952

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Uncl.

1. KRICHAVKIY, I. I.
2. USDL (600)
4. Sheep Breeding
7. "Kul'turnik" Collective Farm raises breeding sheep. Sots. zhiv. 14 no. 11, 1952.

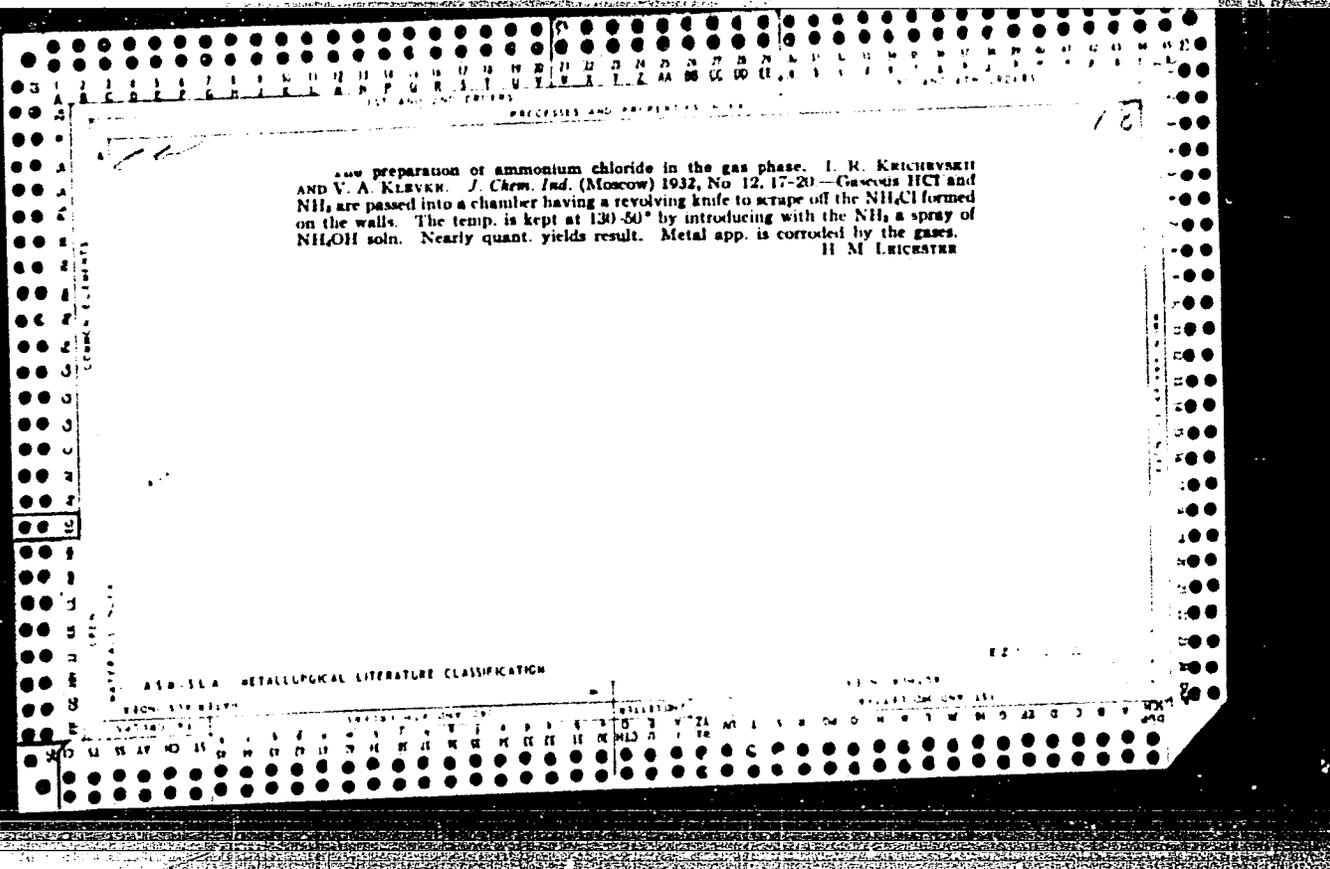
9. Monthly List of Russian Acquisitions, Library of Congress, March 1953. Unclassified.

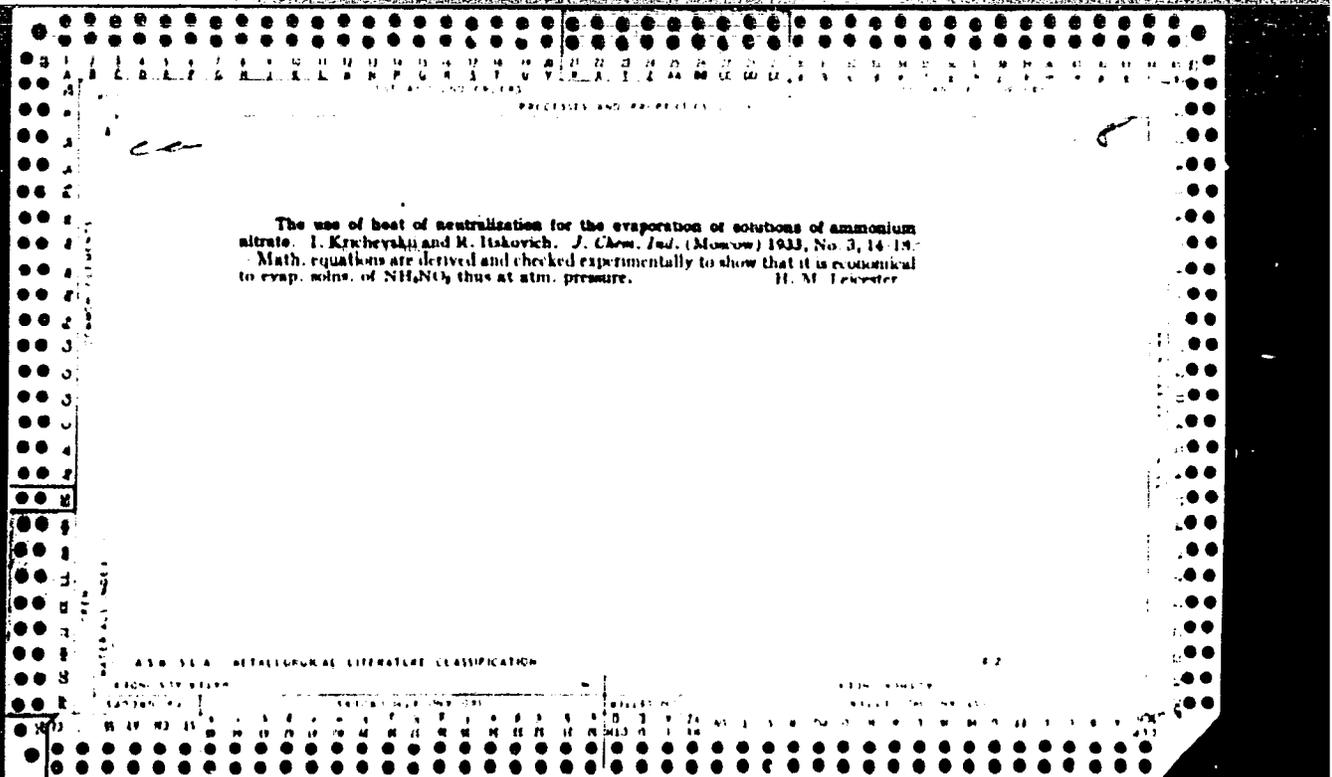
KRICHVSKIY, I.M., inzhener.

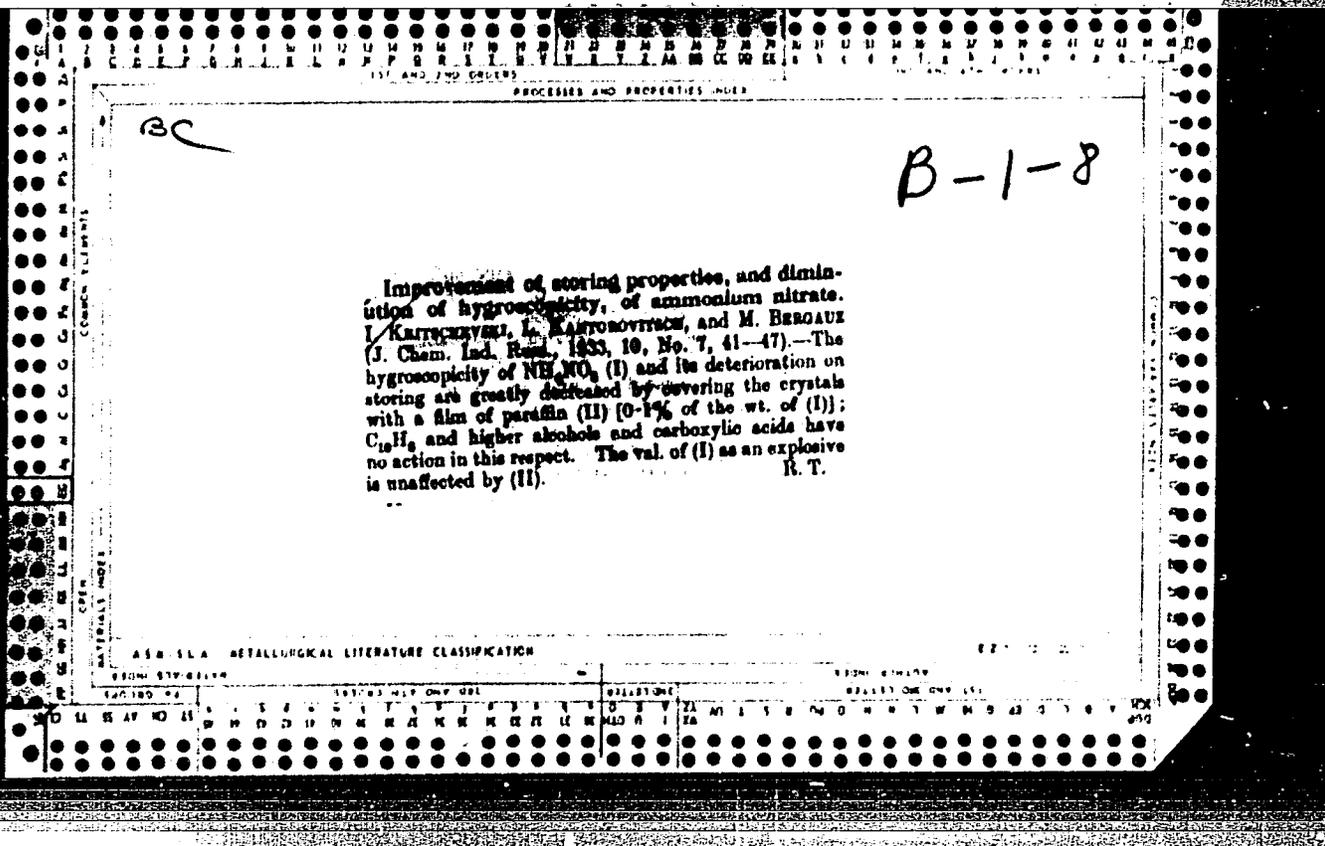
Ways of reducing waste in foundations. Vest.elektrom. 27
no.12:37-38 D '56.

(MLRA 10:1)

1. Zavod "Kuzbasselektromotor."
(Founding)







PROCESSES AND PROPERTIES INDEX

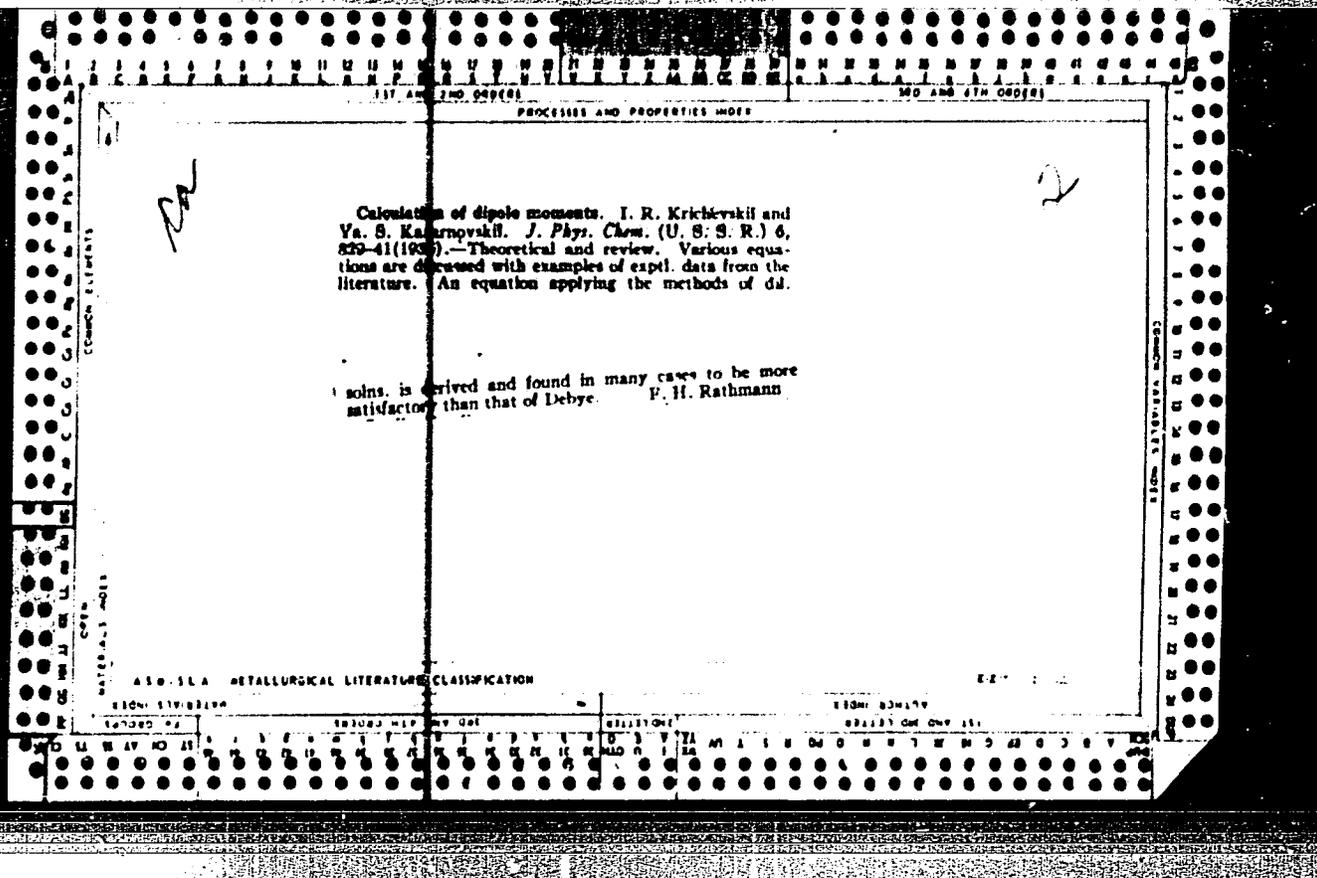
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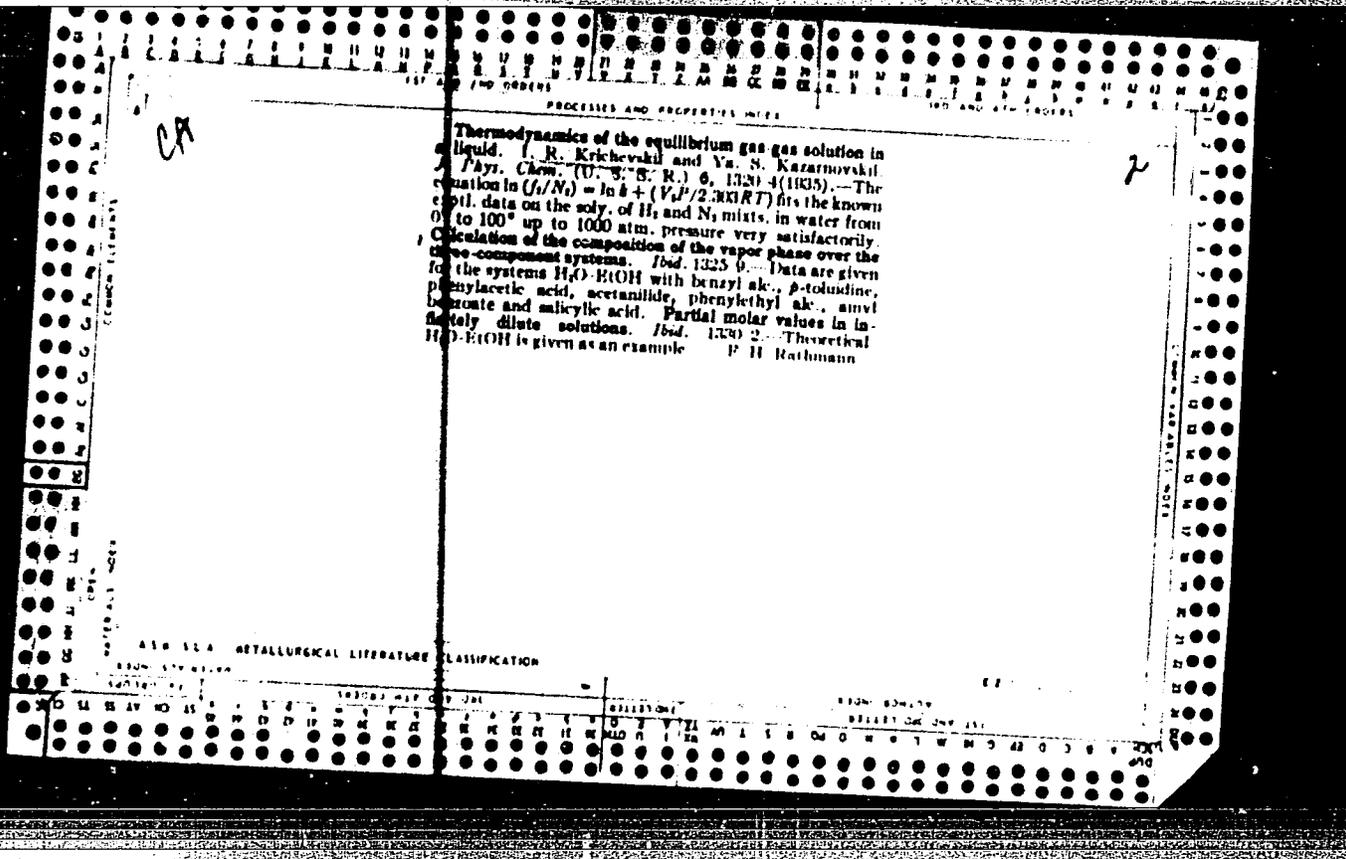
Calculation of the composition of the gas phase above a binary solution. I. R. Krichevskii and Ya. S. Kazarnovskii. *J. Phys. Chem. (U. S. S. R.)* 9, 1222-9(1934); cf. *C. A.* 29, 2704^g.—By means of a numerical integration of the Gibbs-Duhem equation in the form $dx_1 = x_1(1-x_1) \cdot P(x_1) - NP$ by the method of Runge the gas-phase compn. is calcd. as a function of the molar compn. of the liquid and the resp. vapor pressures. At 35.17° in Me_2CO-CO_2 solns. some values of the mol. fraction of Me_2CO in the liquid, the mol. fraction calcd. and that found in the gaseous state were 0.9376, 0.734, 0.749; 0.7184, 0.413, 0.458; 0.5800, 0.383, 0.388; 0.2742, 0.322, 0.317; 0.0308, 0.116, 0.110. By applying the Lewis-Randall concept of fugacity and the Kees and Clark value (*C. A.* 26, 3172) for polymerization of HOAc, the following (selected) mol. fractions of HOAc in HOAc-PhMe solns. at 80.05° gave the calcd. and found mol. fractions of HOAc in the gaseous state: 0.8536, 0.940, 0.937; 0.7513, 0.631, 0.602; 0.5501, 0.502, 0.485. In HOAc-H₂O solns. at 80.09°, some values were, resp., 0.8781, 0.763, 0.770; 0.6454, 0.458, 0.433; 0.2205, 0.179, 0.159; 0.0636, 0.0663, 0.0438. F. H. R.

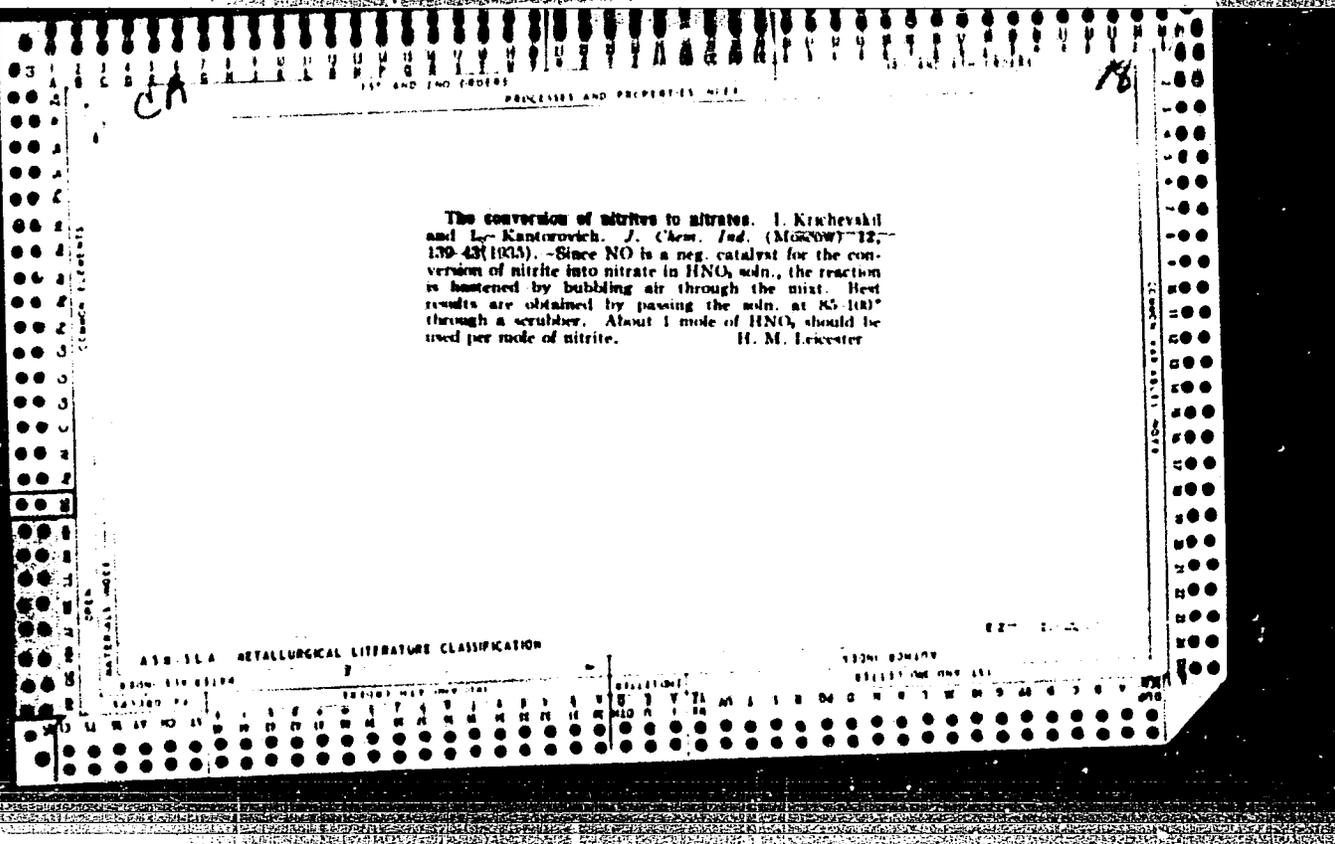
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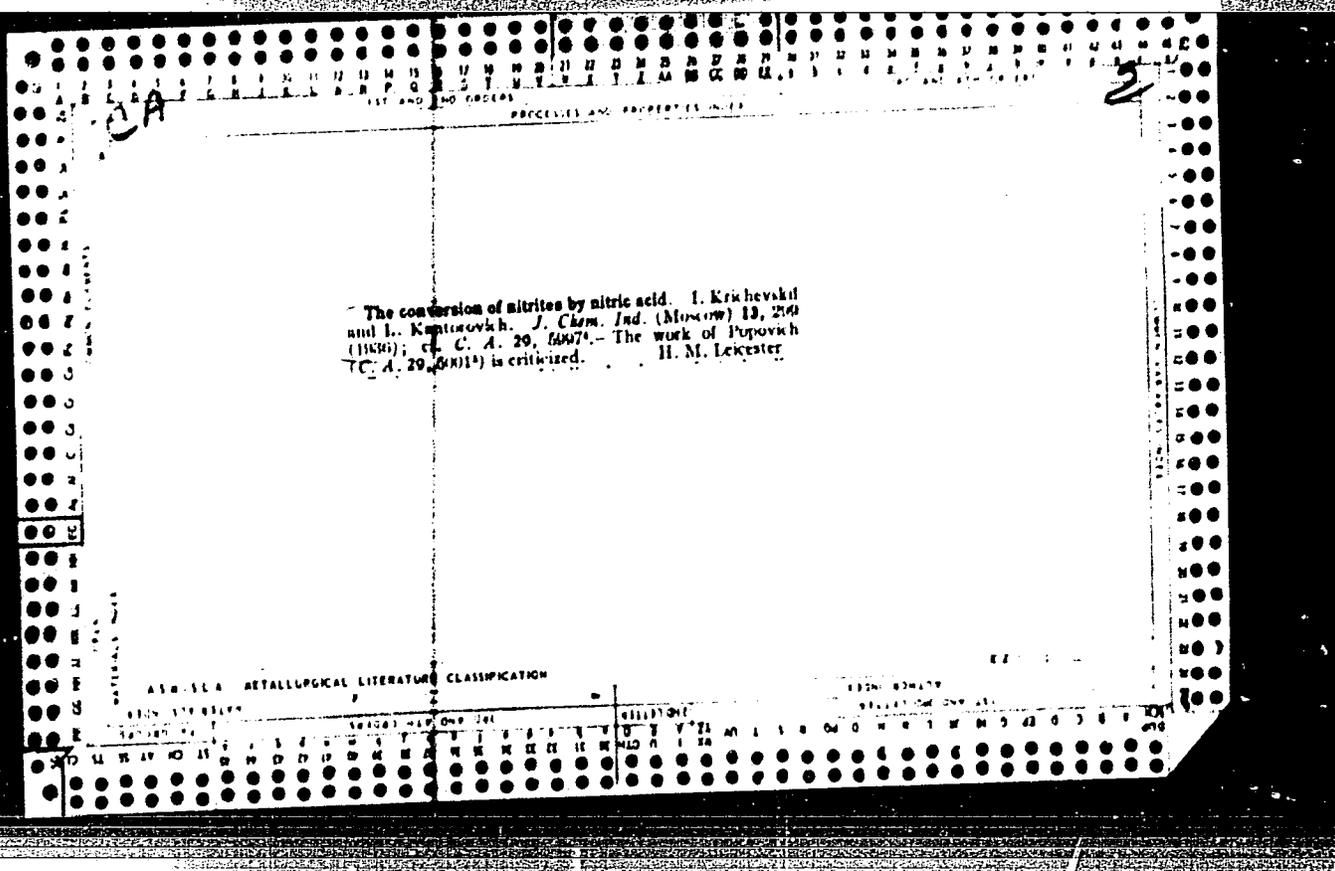
A.S.M. S.A. METALLURGICAL LITERATURE CLASSIFICATION

SECTION #1	SECTION #2	SECTION #3	SECTION #4	SECTION #5	SECTION #6	SECTION #7	SECTION #8	SECTION #9	SECTION #10	SECTION #11	SECTION #12	SECTION #13	SECTION #14	SECTION #15	SECTION #16	SECTION #17	SECTION #18	SECTION #19	SECTION #20	SECTION #21	SECTION #22	SECTION #23	SECTION #24	SECTION #25	SECTION #26	SECTION #27	SECTION #28	SECTION #29	SECTION #30	SECTION #31	SECTION #32	SECTION #33	SECTION #34	SECTION #35	SECTION #36	SECTION #37	SECTION #38	SECTION #39	SECTION #40	SECTION #41	SECTION #42	SECTION #43	SECTION #44	SECTION #45	SECTION #46	SECTION #47	SECTION #48	SECTION #49	SECTION #50
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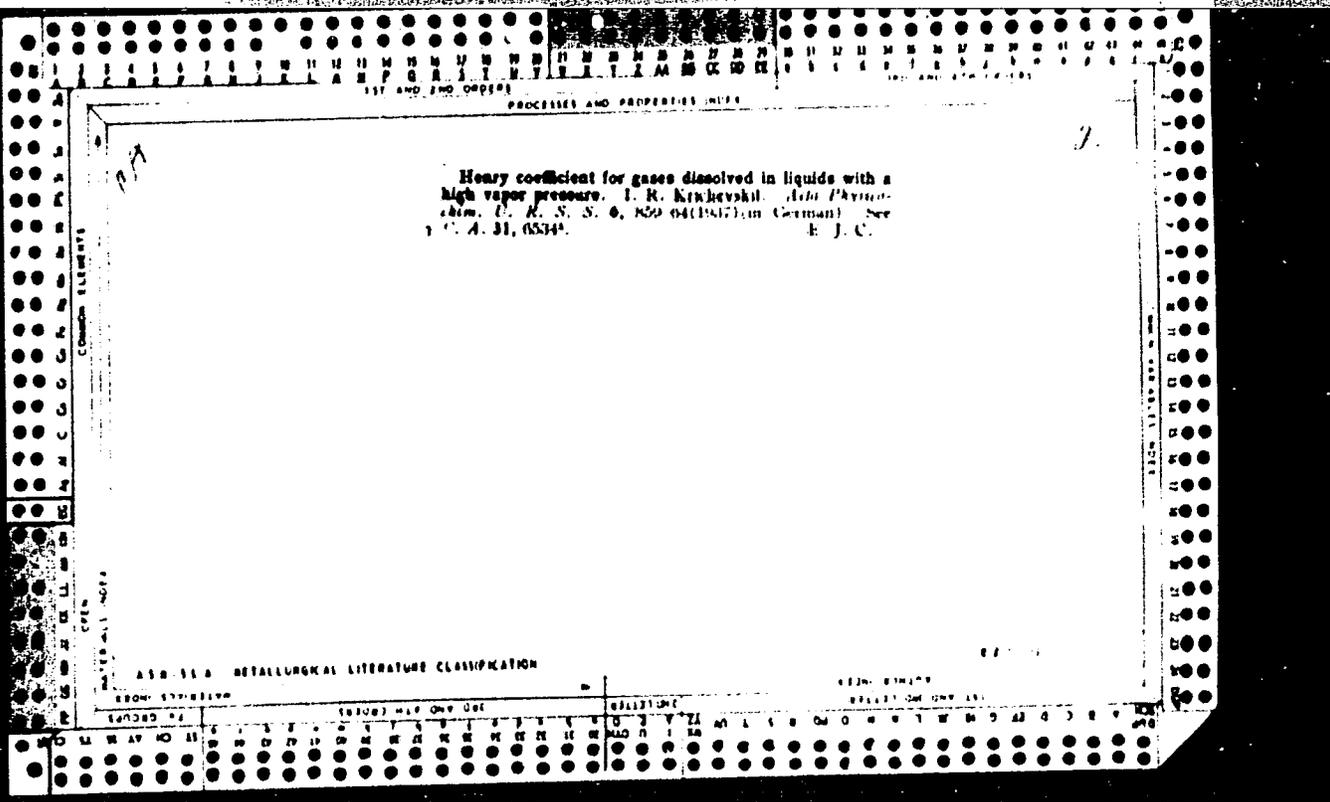
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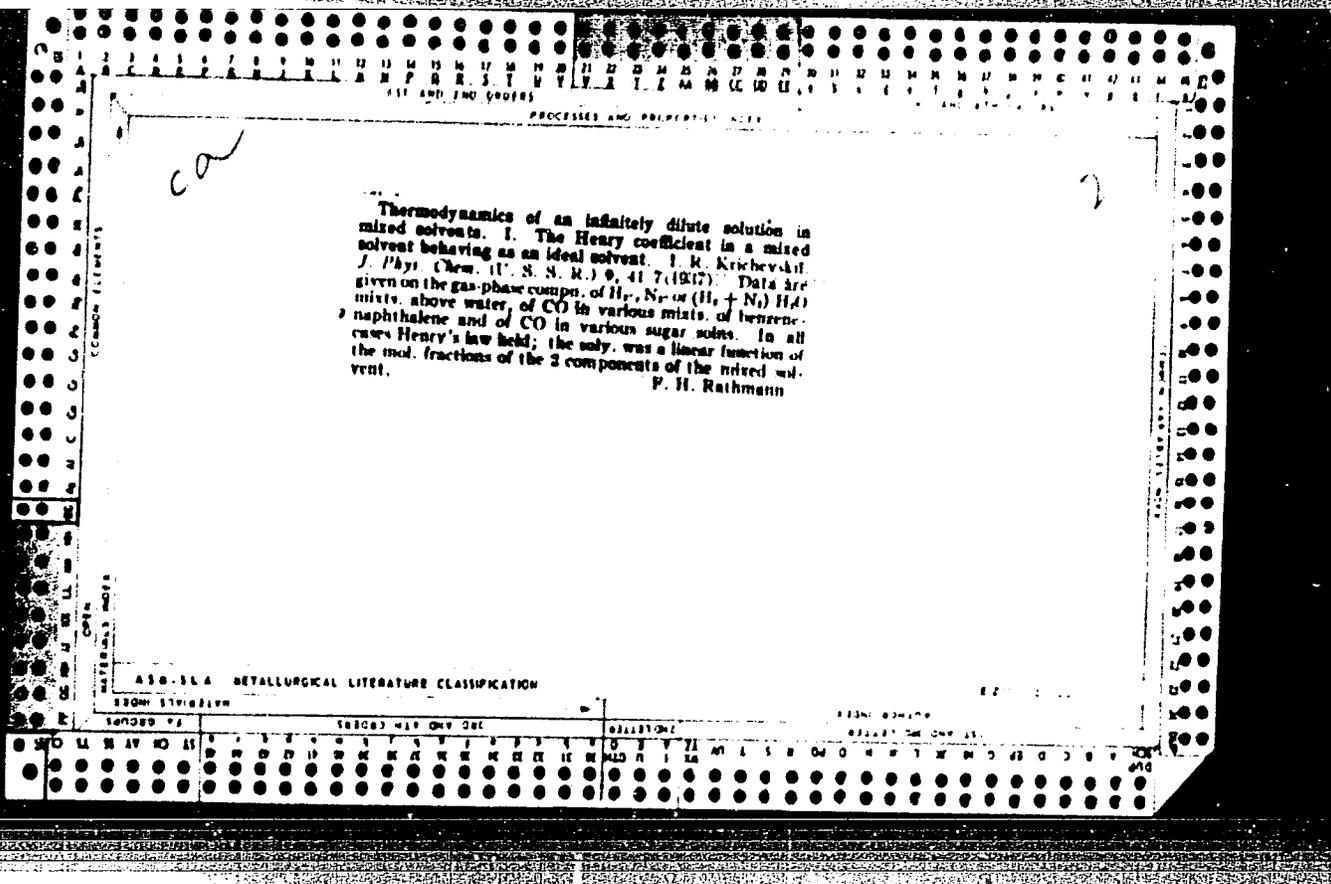
PROCEDURES AND PROPERTIES INDEX

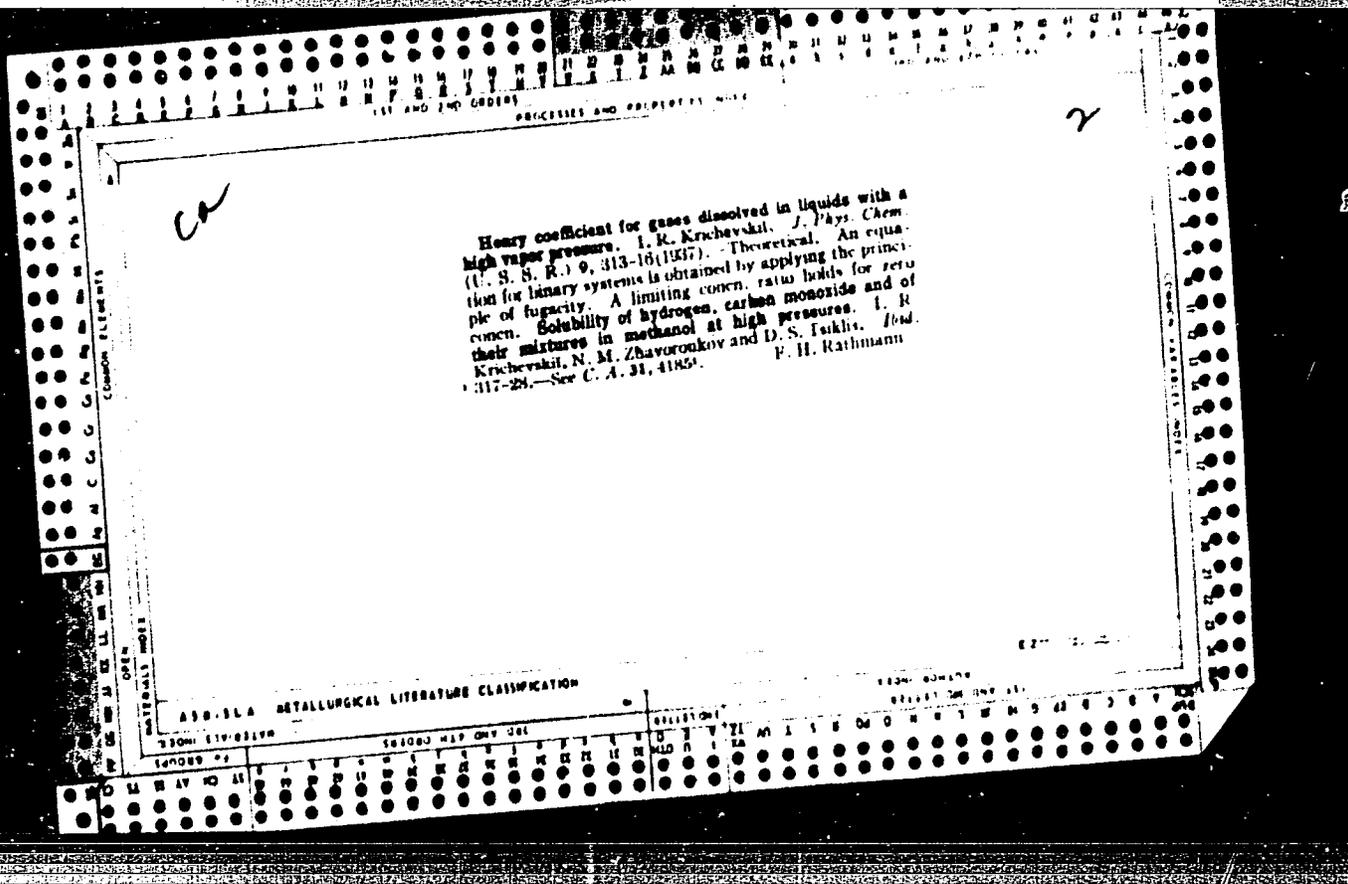
Solubility in water of carbon dioxide in mixtures with hydrogen at pressures of 30 kg. per sq. cm. I. R. KARAGORVARI, N. M. SHAVORONKOV, and V. A. EPILAVIN (J. Chem. Ind. Russ., 1936, 13, 973-979).—Solubility of CO_2 in H_2O is a linear function of the fugacity for mixtures containing 25–100% of CO_2 at pressures of 5–30 kg. per sq. cm., and at 0°, 20°, and 30°. R. T.

ASAC 55.6 METALLURGICAL LITERATURE CLASSIFICATION

GROUP	SECTION	SUBSECTION	COLLECTION
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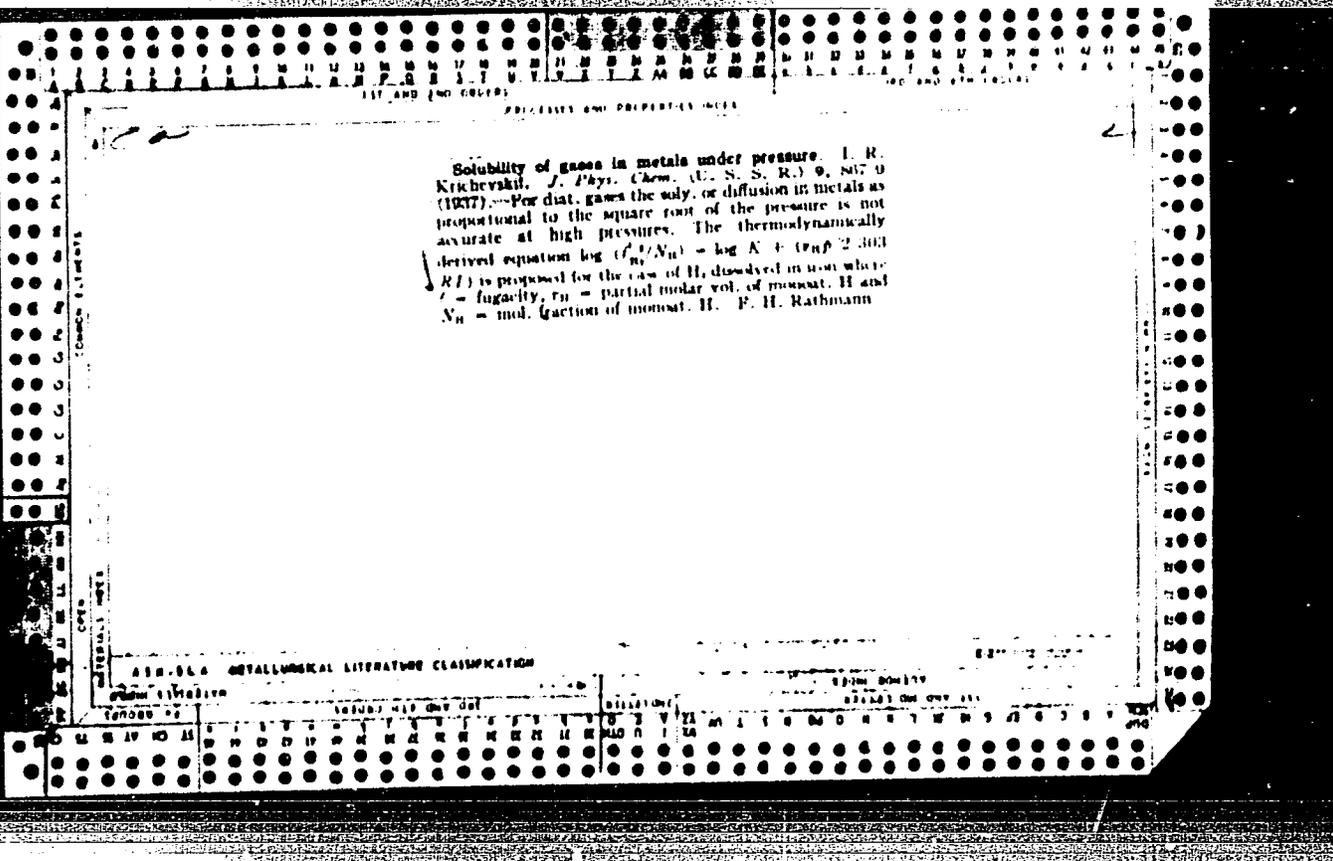
PROCESSING AND PROPERTIES INDEX

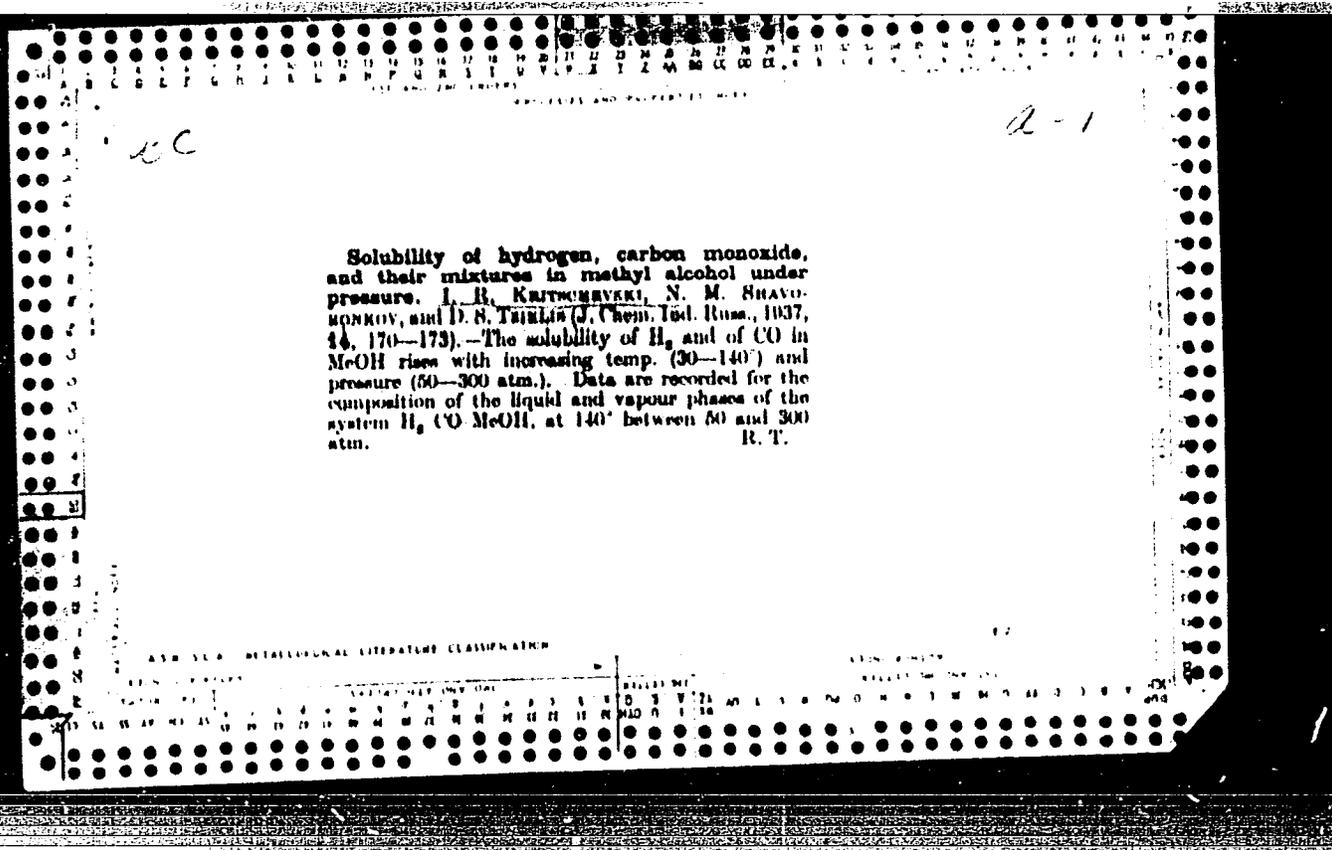
Free energy of formation of sodium carbonate and sodium bicarbonate. I. R. Krichevskii and Ya. S. Kazarnovskii. *J. Phys. Chem. (U. S. S. R.)* 9, 663 (1937).—For the reaction $\text{Na} (s) + \text{C} (\text{graphite}) + \frac{1}{2}\text{H}_2 (g) + \frac{1}{2}\text{O}_2 (g) = \text{NaHCO}_3 (s)$ K. and K. calc. the free energy change $\Delta F_{\text{form}} = -225824 + 11.531 T \ln T - 0.022204 T^2 + 0.059931 T^3 + 14.487$ and $I = 14.48$. For the reaction $2\text{Na} + \text{C} + \frac{1}{2}\text{O}_2 = \text{Na}_2\text{CO}_3$, $\Delta F_{\text{form}} = -270,076 + 10.745 T \ln T - 0.0551 T^2 + 0.094251 T^3 - 10.82 T$ and $I = 10.82$ F. H. Rathmann

ASB-35A METALLURGICAL LITERATURE CLASSIFICATION

SECTION 1

SECTION 1	SECTION 2	SECTION 3	SECTION 4	SECTION 5	SECTION 6	SECTION 7	SECTION 8	SECTION 9	SECTION 10	SECTION 11	SECTION 12	SECTION 13	SECTION 14	SECTION 15	SECTION 16	SECTION 17	SECTION 18	SECTION 19	SECTION 20	SECTION 21	SECTION 22	SECTION 23	SECTION 24	SECTION 25	SECTION 26	SECTION 27	SECTION 28	SECTION 29	SECTION 30	SECTION 31	SECTION 32	SECTION 33	SECTION 34	SECTION 35	SECTION 36	SECTION 37	SECTION 38	SECTION 39	SECTION 40	SECTION 41	SECTION 42	SECTION 43	SECTION 44	SECTION 45	SECTION 46	SECTION 47	SECTION 48	SECTION 49	SECTION 50
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2-1

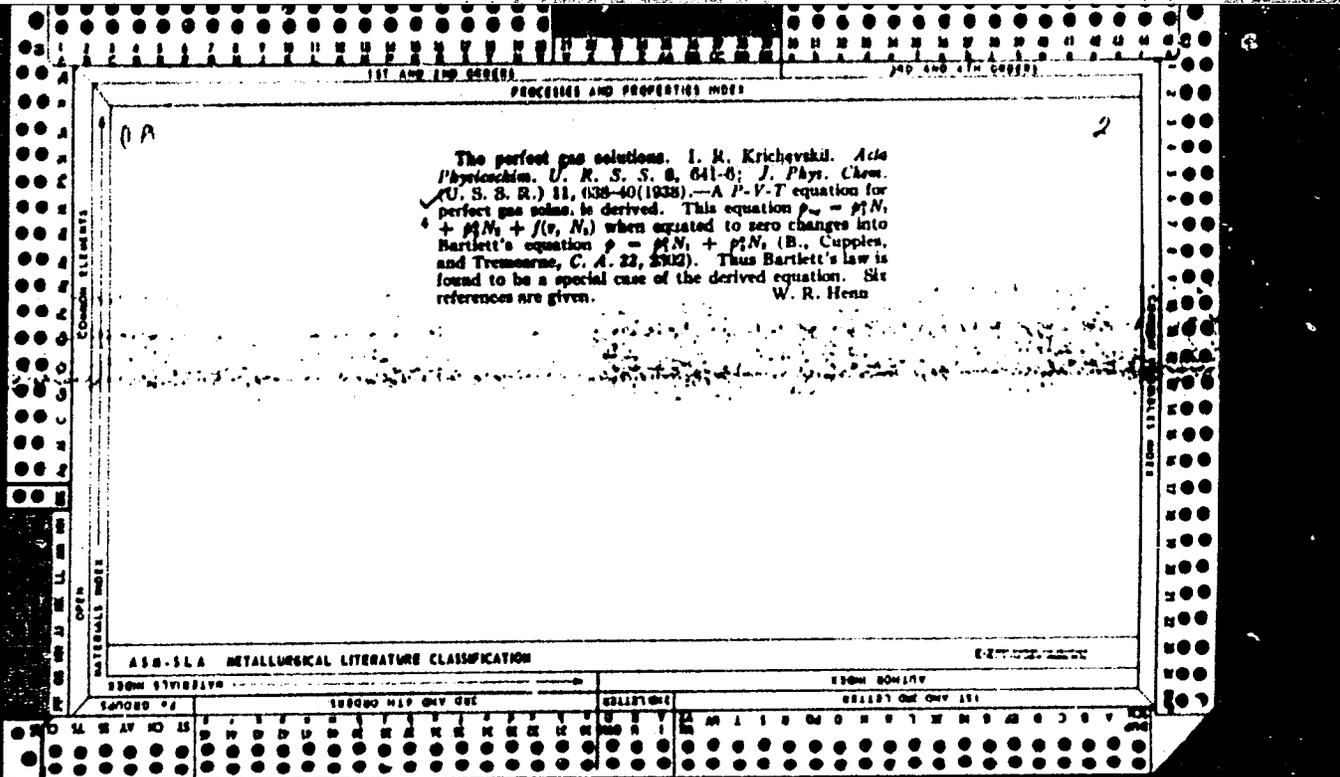
Solubility of hydrogen, carbon monoxide, and their mixtures in methyl alcohol under pressure. I. R. KRITOMENYKI, N. M. SHAVONKOV, and D. S. TIBLIS (J. Chem. Ind. Russ., 1937, 14, 170-173).—The solubility of H₂ and of CO in MeOH rises with increasing temp. (30–140°) and pressure (50–300 atm.). Data are recorded for the composition of the liquid and vapour phases of the system H₂ (CO MeOH, at 140° between 50 and 300 atm. R. T.

PROCESSES AND PROPERTIES INDEX

2

Partial molal volumes of strong electrolytes at high pressures. I. R. Krichevskii, *Acta Physicochim. U. R. S. S. R.*, 181-A (in German); *J. Phys. Chem. (U. S. S. R.)*, 4, 305-9 (1938). From Born's electrostatic formula an equation is derived for the pressure dependence of this quantity, which is successfully applied to infinitely dilute solns. of NaCl (I) and K_2SO_4 (II). The calcd. v_2^0 at 1, 1000 and 3000 bar was 17.04, 20.35 and 22.01 for I and 31.53, 43.04 and 51.04 for II, resp. Insufficient data were available to apply the method to MeOH solns. of NaI. S. I. Gerhard

430.554 METALLURGICAL LITERATURE CLASSIFICATION



BC

11

Gas-vapour solutions at high pressures. I. R. KRITSCHAVSKI and N. F. CHARANOVA (Acta Physico-chim. U.R.S.S., 1939, 10, 199-216).—Theoretical. The application of the Gibbs-Dalton law, the Lewis-Randall rule, and equations of state to gas-vapour solutions at high pressures is discussed. Components must possess parallel isometries in order to form a regular gas solution. A derived equation enables other isotherms to be calc. from an experimentally determined isotherm. Published data for the system $(\text{CO}_2)_2$ satisfactorily fit in with the equation. The electrostatic theory for solutions of polar vapour in non-polar gas has been developed and an equation has been derived which agrees with data for solutions of H_2O vapour in various gases. As pressure increases, the mol. fraction of vapour in the gas phase decreases to a min. val. and then increases. An equation expressing the conditions obtaining at this min. point has been derived but data confirming it are lacking. C. R. H.

V-1613, 3 Jan 52 Nitrogen (ust - Moscow)

ASR 51A METALLURGICAL LITERATURE CLASSIFICATION

LIST AND THE SERIES PROCESSING AND PROPERTIES INDEX 149 AND 176 692(2)

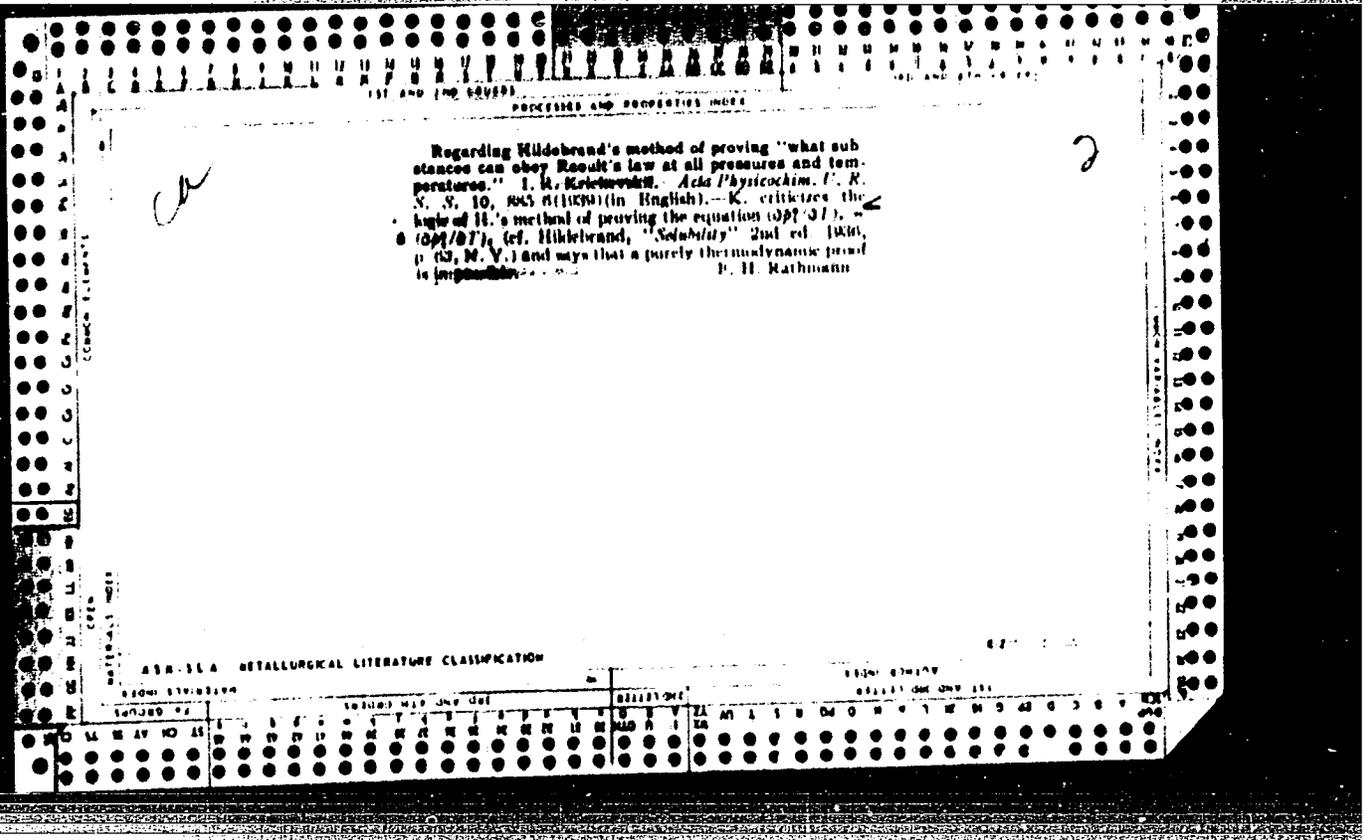
No. 2

As equation of state for gaseous mixtures. I. N. Krichenok and Ya. B. Kasarnovskii. *Acta Physicochim.* U. R. S. S. R. 10, 217-44 (1956) (in English). Data on the P-V-T relations for various A-C₂H₆, (A-C₂H₄, air, N₂, CH₄, N₂-H₂, pure H₂, and H₂-CO) mixts. at 0 to 300° and at pressure up to 1000 atm. are given. In the equation $p = p_1 N_1 + p_2 N_2 + e N_1 N_2 (p_1 - p_2)$, e has the values 0.474 for A-C₂H₆ at 25° up to 125 atm.; 0.223 for N₂-O₂ (air) from 0 to 300° and up to 2700 atm.; 0.530 for O₂-C₂H₆ at 25° up to 125 atm.; 0.484 for N₂-CH₄ from 0 to 300° and up to 25 atm.; 0.519 for N₂-H₂ at 0° up to 1000 atm., and 0.495 at 300°; 0.741 for H₂-CO at 0-25° and up to 600 atm. The data also obey the fugacity equation $RT \ln (f_i/p_i N_i) = N_i^2 RT \ln (f_1/f_2) + N_2 (1 + e(N_1 - N_2)(p_1 - p_2))$, where f_i and f_2 are the fugacities and N_1 and N_2 the mole fractions to within a max. error of ca. 0% and a mean square error of ca. 1%.

P. H. Nathmann

U-1613, 3 Jan 52
State Inst. of Nitrogen, Moscow

ASS. ILLA METALLURGICAL LITERATURE CLASSIFICATION



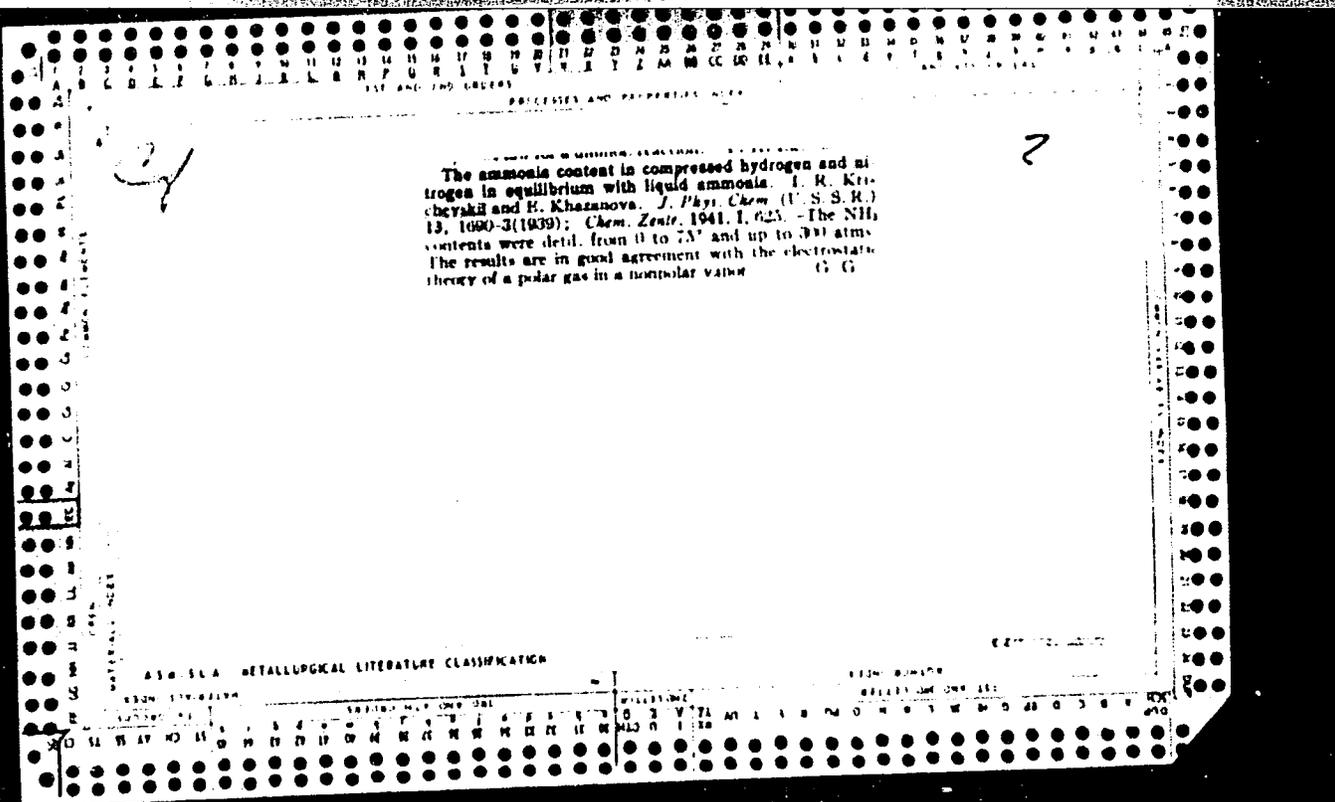
PROCESSES AND PROPERTIES INDEX

A-1

Equation of state for gas mixtures. I. II. KRIVONOS and J. N. KARABOVSKI (J. Phys. Chem. USSR, 1939, 13, 378-396).—A semi-empirical equation for the total pressure, p , of a binary gas mixture is proposed: $p = p_1^0 N_1 + p_2^0 N_2 + a N_1 N_2 (p_1^0 - p_2^0)$, where p_1^0 and p_2^0 are the pressures of the components for a vol. equal to the mol. vol. of the mixture, N_1 and N_2 the mol. fractions of the components, and a is a const. which can be a function only of the temp. (cf. A., 1938, I, 611). It agrees with existing data for a wide range of temp., pressure, fugacity, and composition. R. C.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

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117 AND 118 GROUPS
119 AND 120 GROUPS
PROCESSES AND PROPERTIES INDEX

CA 2

Limited mutual solubility of gases at high pressures.
 I. B. Katsenelenbovich. *Acta Physicochim. U. R. S. S.* 12, 480 (1940) (in German).—At +140° and 8000 kg./sq. cm. a 67.6 NH₃:32.4 N₂ mixt. is not a homogeneous gas but seps. into 2 gaseous phases contg. 76.6 and 23.1% NH₃, resp.
 F. H. Rathmann

ABB-SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUPS A-Z
ELEMENTS
GROUPS A-Z
GROUPS A-Z
GROUPS A-Z

PROCESSIES AND PROPERTIES INDEX

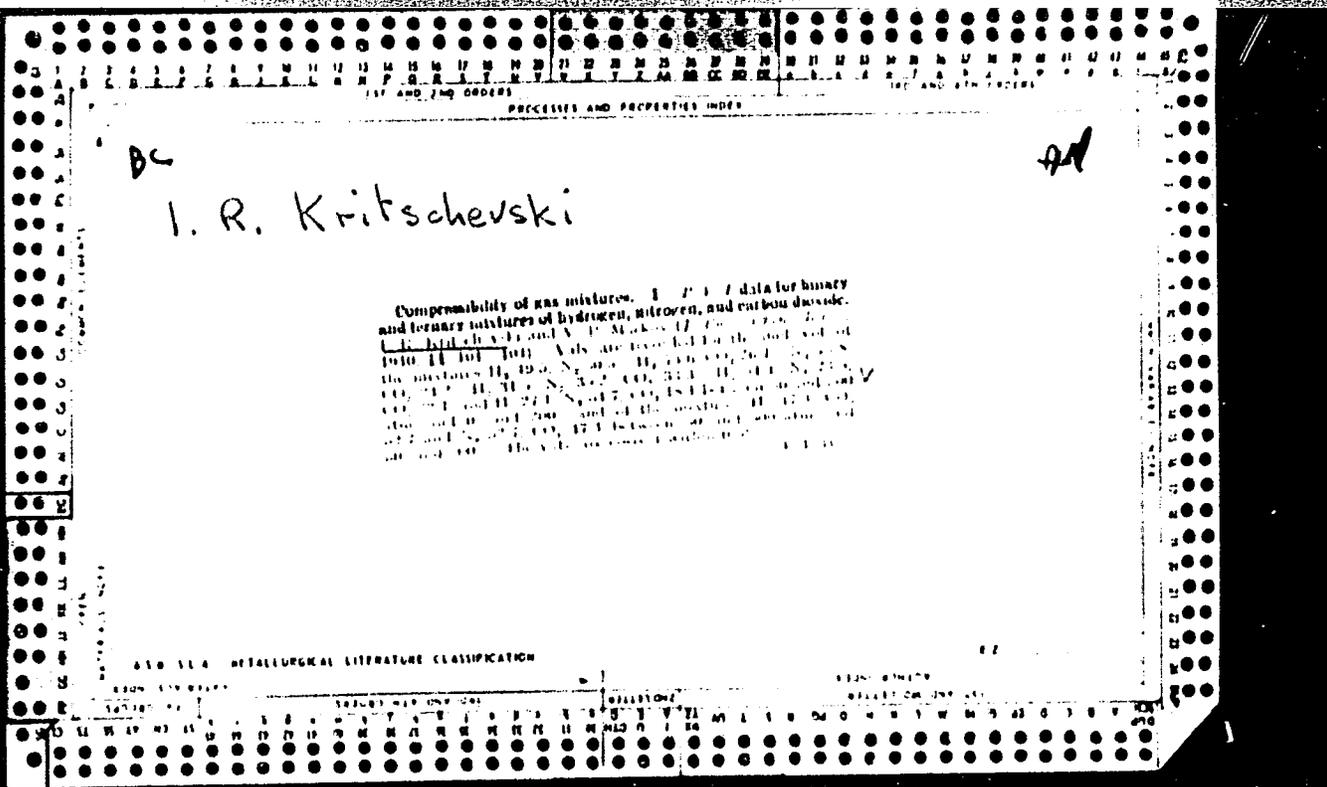
2

CA

Adsorption of gases under pressure. I. R. Kikchevski and R. S. Kalvarskaya. *Acta Physicochim. U. R. S. S.* 13, 49-68(1940)(in German).—It is shown theoretically that for const. thermodynamic vapor potential the amt. of adsorbed vapor must decrease with increasing pressure. Exptl. data for the system benzene-CCl₄ with sugar charcoal at 30° and 1-100 atm. show that the adsorption decrease is less than demanded by the Polanyi theory (*C. A.* 36, 3976). The deviation is due to the difference between the mol. vol. of adsorbed and ordinary liquids. Exptl. data on the vapor content of benzene and CCl₄ in the systems B-N₂, B-N₂-3H₂ at -10 to +50° and 50-600 atm. shown in 6 figs. and 3 tables show that for a const. mole fraction of vapor in the gas, the adsorption passes through a max. as the pressure increases at that pressure for which the partial molal vol. in the gas phase is equal to that of an adsorbed liquid. The vapor content in a compressed gas passes through a min. at the pressure for which the partial molal vol. in the gas and condensed phases is equal.

F. H. Rathmann

METALLURGICAL LITERATURE CLASSIFICATION



WICHENSKIY S.S.

Moscow

Scientific-Research Institute for Nitrogen

"The Limited Reciprocal Solubility of Gases under High Pressure."

Zhur. Fiz. Khim., Vol. 11, No. 3, 1940.

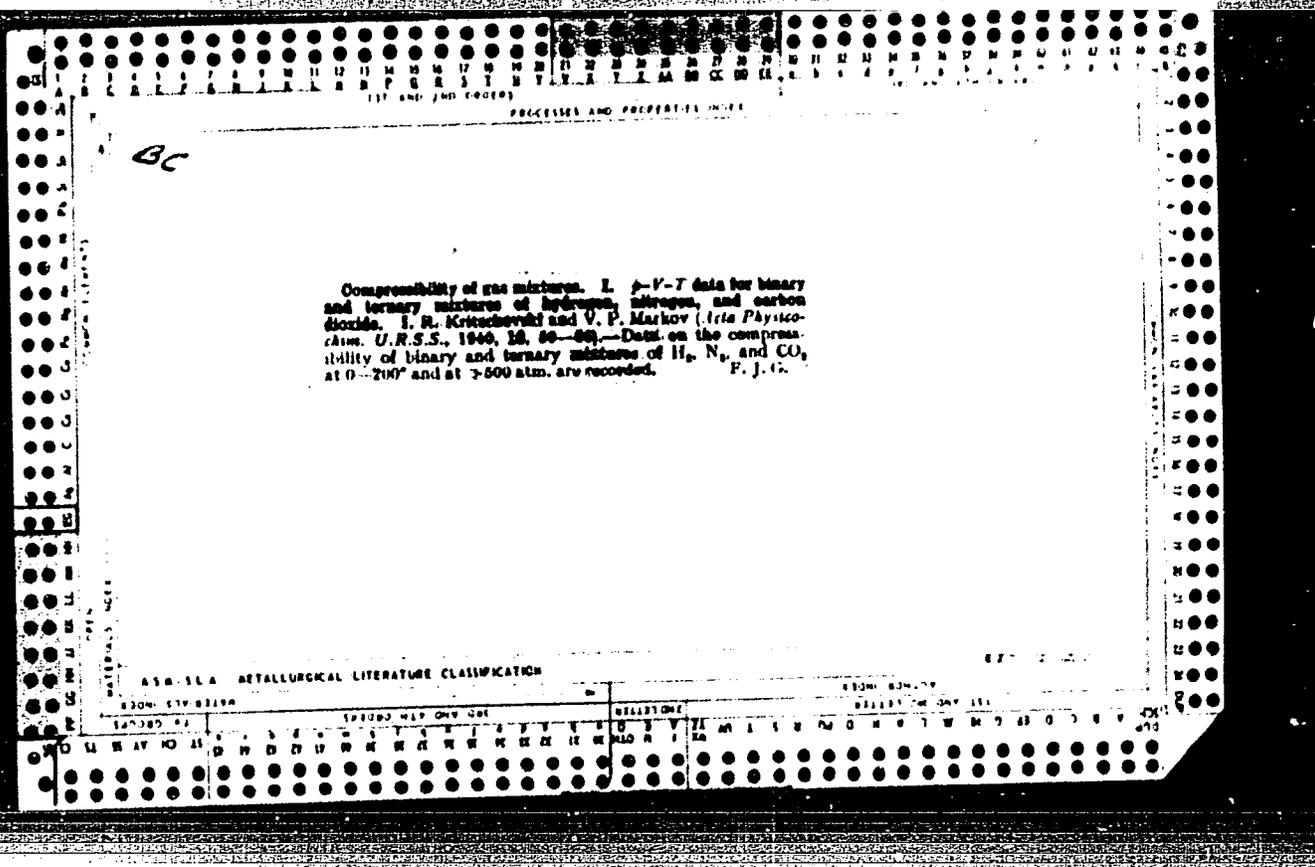
KRICHENSKIY, I. R.

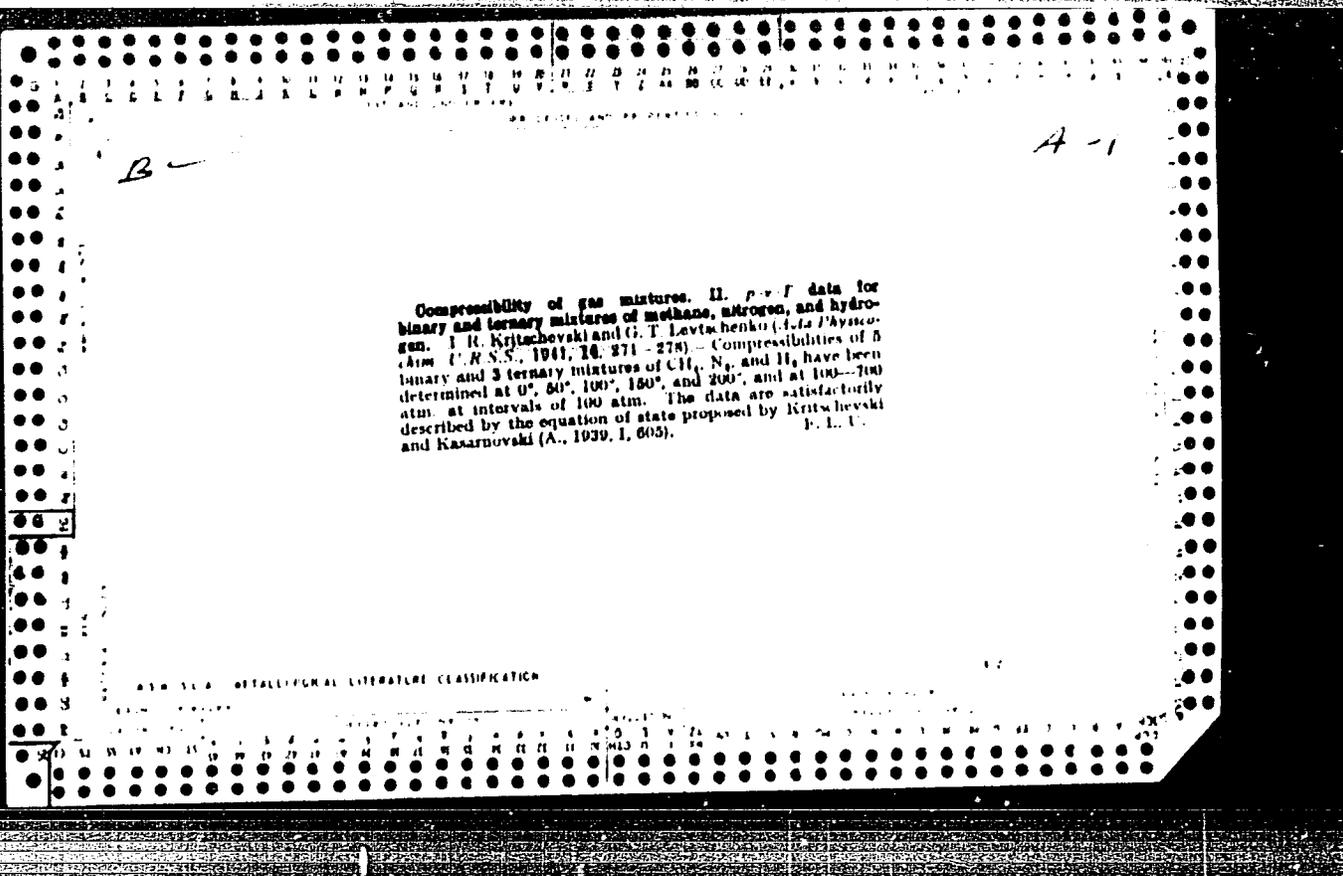
Moscow

Institute of Nitrogen, (-1940-)

"The adsorption of Vapors under Pressure."

Zhur. Fiz. Khim., Vol. 14, No. 5-6, 1940.



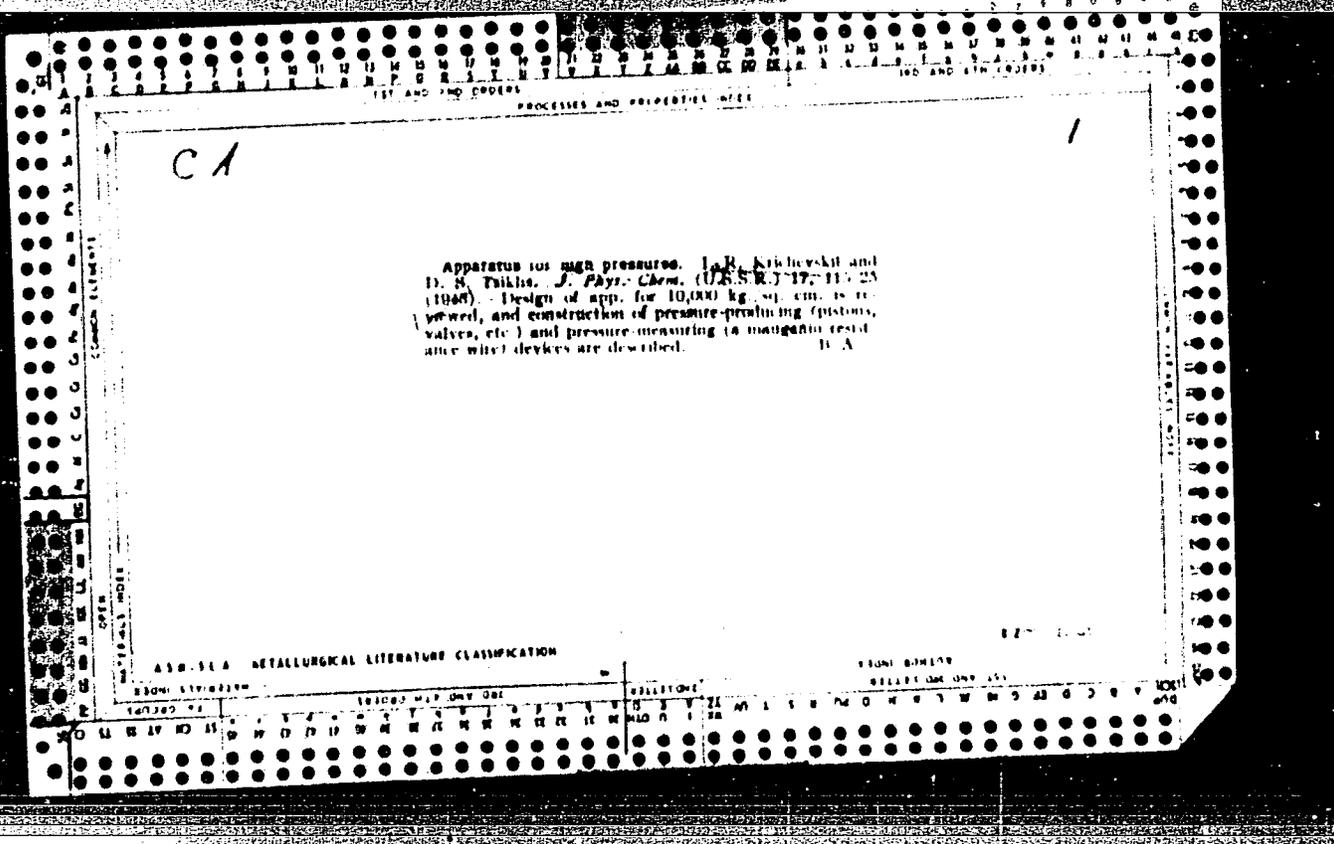


Heterogeneous equilibria in the ammonia-nitrogen system at high pressure. I. Kritchevski and P. Dolzhanov (*Acta Physicochim. U.R.S.S.*, 1941, 14, 363-364).—In the system $\text{NH}_3\text{-N}_2$ there is a two-phase region at temp. $>90^\circ$ and at pressures >1800 kg. per sq. cm. The crit. point is at $63-67$ vol.-% NH_3 and 1500 kg. per sq. cm. at 90° and 3300 kg. per sq. cm. at 125° . The crit. curve, starting from the val. for pure NH_3 , tends towards lower temp. at first but reaches a min. at $85-90^\circ$ and subsequently rises. The system shows a barotropic phenomenon: *cf.* at 90° and <1800 kg. per sq. cm. the phase rich in NH_3 is the denser, but at >1800 kg. per sq. cm. it is the lighter. The possibility of limited mutual solubility in gases is discussed thermodynamically. F. J. G.

L. 18.

Limited mutual solubility of gases at high pressures. I. R. Krit.
cheyaki and D. S. Zikha (*J. Phys. Chem. Russ.*, 1941, 18, 1030).
The solubility of N_2 in NH_3 (cf. A. 1041, 1, 415) is measured at
125, 148, and 2000-2500 kg per sq cm.

Solubility of liquids in compressed gases. Solubility of benzene in compressed nitrogen. E. Kritchevski and D. Gamburg *Vestn. Khim. U.S.S.R.*, 1942, 18, 362-375. -- The solubility of C_6H_6 in compressed N_2 has been studied at temp. from 35 to 100° and pressures up to 1100 kg per sq cm. The solubility curve shows a minimum and a point of inflexion. With increase of pressure the solution acquires a structure. A. J. M.



ALIMOVSKY, I. P.; KAMIN, B. Ya.

Moscow State Nitrogen Institute (-1941-)

"Solubility of Liquids in Condensed Gases." Zhur. Fiz. Khim., Vol. 17, No. 1, 1943

■-5285019

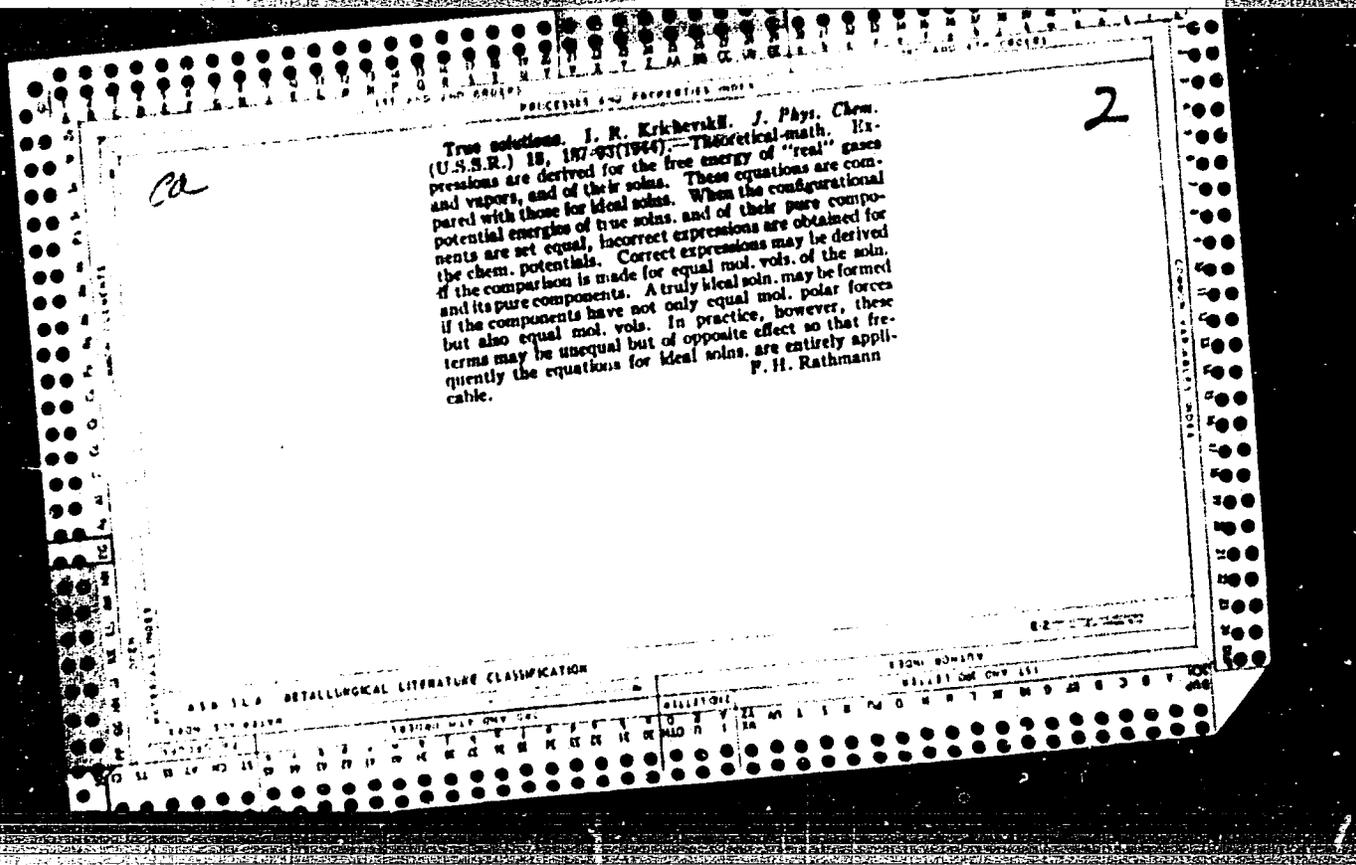
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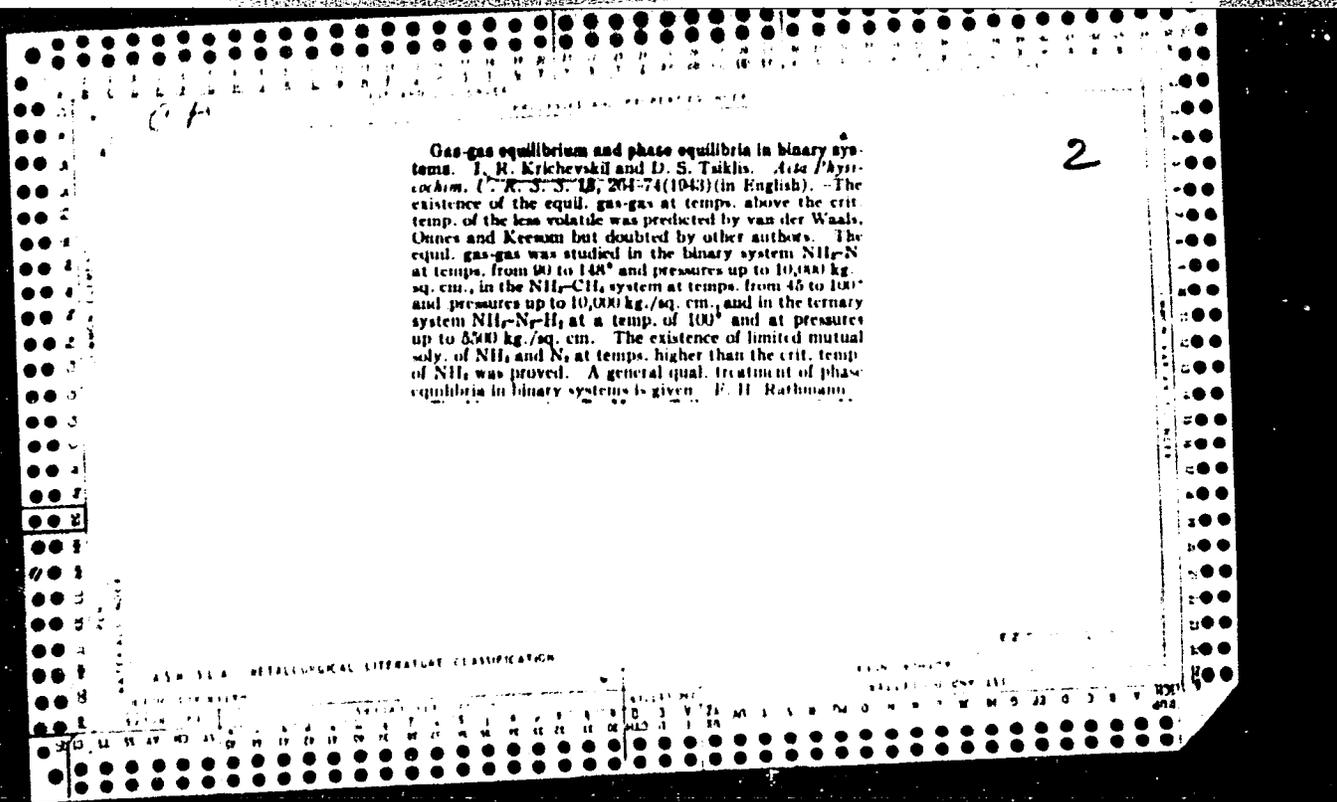
A-1

Equilibrium between gas and gas and phase equilibria in binary systems. I. R. Kritchevski and D. S. Tsiklis (*J. Phys. Chem. Russ.*, 1943, 17, 126-133).—Formation of two layers in mixtures of NH_3 and N_2 , of NH_3 and CH_4 , and of NH_3 , H_2 , and N_2 is observed up to 10,000 kg. per sq. cm. The crit. temp. of dissolution of NH_3 and CH_4 first increases with pressure, then diminishes, passes through a min. at 43° and 1100 kg. per sq. cm., and rises to 100° at 9280 kg. per sq. cm. In the system NH_3 - N_2 two layers are formed even at 144° (pressure = 10,000 kg. per sq. cm.), i.e., above the crit. temp. of both gases. In a NH_3 - H_2 - N_2 mixture at 100° the NH_3 rich phase is heavier than the other one below 3600 kg. per sq. cm. and lighter above this pressure. The results are discussed from the point of view of van der Waals. | | |

ANALYTICAL METALLURGICAL LITERATURE CLASSIFICATION

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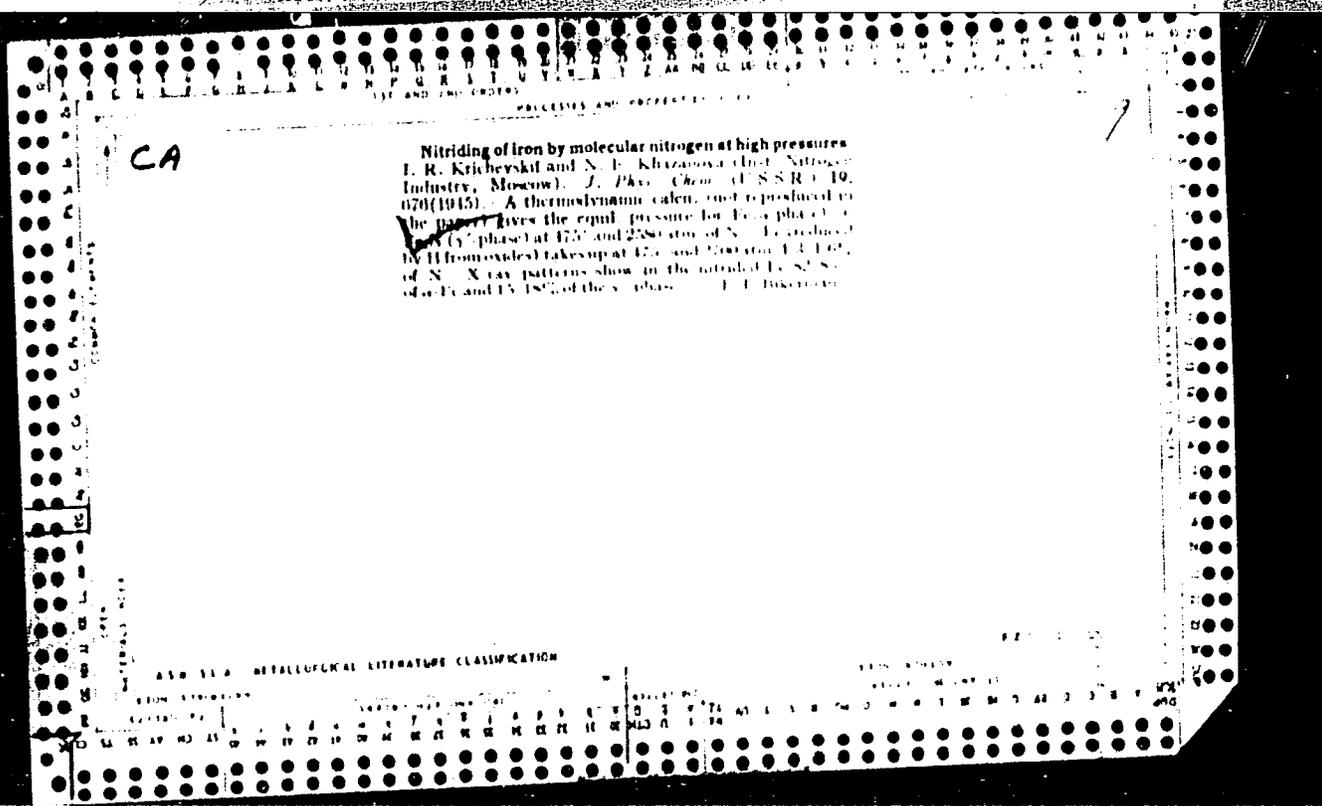




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KRICHEVSKIYI, I. R.

KRICHEVSKIYI, I. R. and KAZARNOVSKIYI, YA. S., and
LEVCHENKO, G. T. (Nitrogen Inst. Moscow)
J. Phys. Chem. (USSR) 19, 314-22 (1945)
Thermodynamic properties of compressed nitrogen-
hydrogen mixtures.

~~XXXXXXXXXX~~



CA

2

Partial molal volumes of gases dissolved in liquids (the thermodynamics of dilute solutions of nonelectrolytes). I. R. Kritevskii and A. Il'inskaya (Inst. Nitrogen Industry, Moscow). *Acta Physicochim. U.R.S.S.* 20, 327-48, (1945). The comparison of values for the partial molal vol. of a gas dissolved in a liquid, detd. exptly. and calcd. on the assumption that Henry's law holds exactly true in the region of finite concns., served as a very sensitive expedient for discovering deviations from Henry's law, even in extremely dil. solns. In this connection the partial molal vols. of H₂, N₂, O₂, CO₂, CH₄, and CO dissolved in H₂O and CH₃OH were measured by a dilatometric method. The measurements were performed at atm. pressure and at 0°, 25°, and 50°. The difference in values of the partial molal vols., detd. experimentally and calcd. by the equation of Kritevsky and Kasarnovsky (C.A. 30, 361) is so great that in no case could it be ascribed to errors in the exptl. detn. (2-4%) or to inaccuracy in calcd. partial molal vols. from the data on soly. To explain the above difference, the concn. dependence of partial molal vols. and heat contents of solvent and solute for dil. binary solns. were analyzed, and by means of

Planck's method expressions for the fugacities of solvent and solute were derived. An equation was derived for the soly. of a pure poorly sol. gas in a liquid under pressure, explaining the difference in values of the partial molal vols. of dissolved gas, detd. experimentally and calcd. by the equation of K. and K. The empirical character of the latter equation is shown, although this equation expresses very well the data on soly. of gases in liquids under pressure. Analysis of the concn. dependence of the partial molal vols. and heat contents was applied to a three-component system, and expressions were derived for the fugacities of the solvent and two solutes. Equations were given for the simultaneous soly. in liquids under pressure of two poorly sol. gases from their mixts. It is also explained why the equation of K. and K. expresses adequately data of the simultaneous soly. in water under pressure at 25° of H₂ and N₂ from a mixt. of them. A diagram of the app. and 48 references are given. Elmer F. Stephan

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

ENTRETIEN

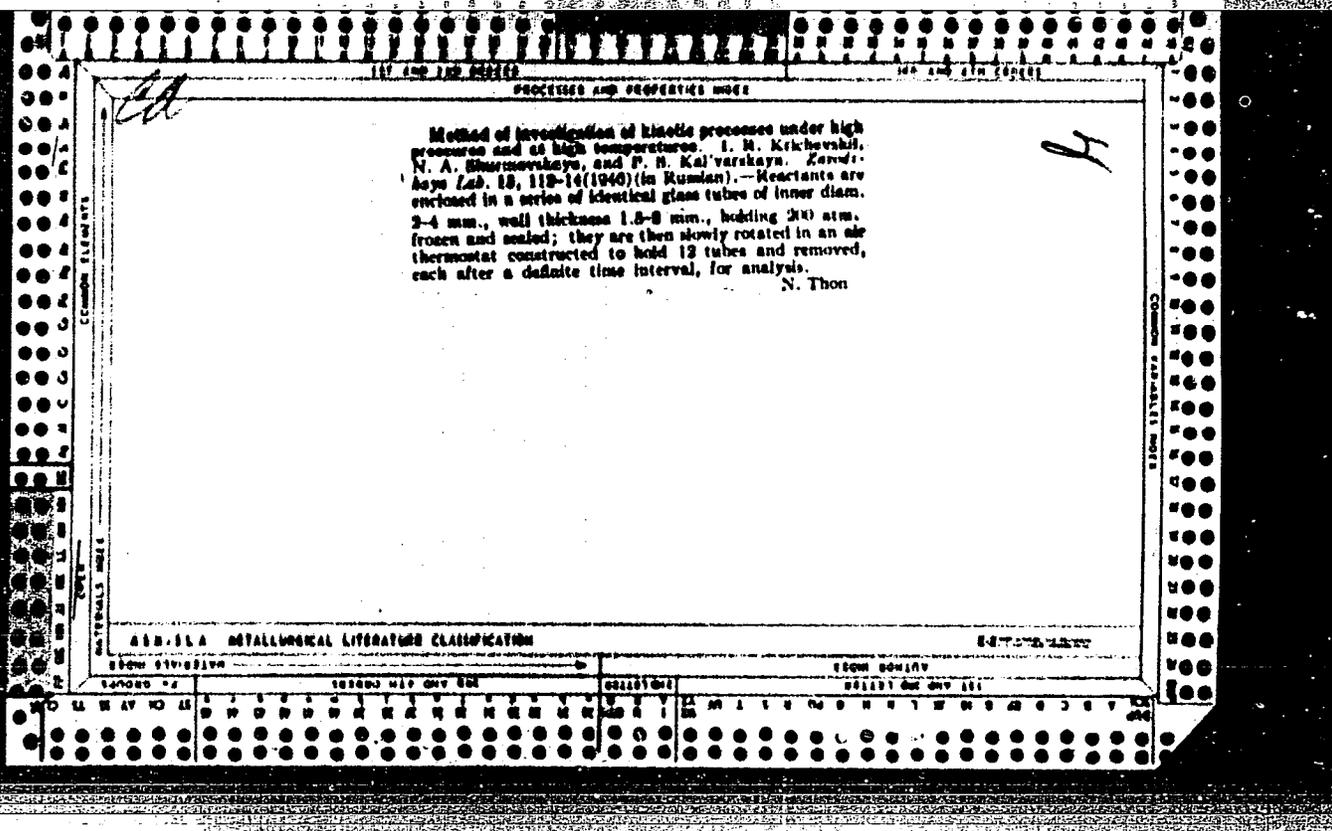
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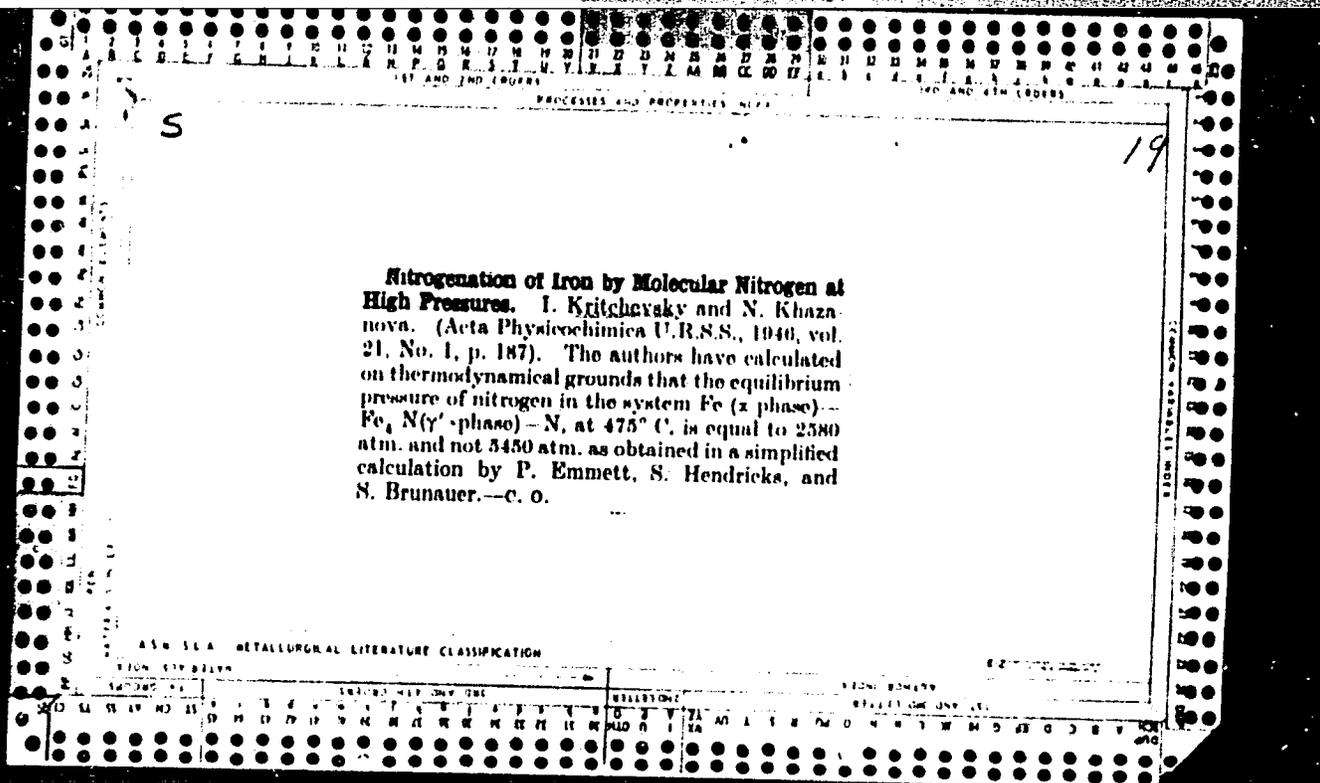
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KRICHENYAKI, I. R.

KRICHENYAKI, I. R. Phase equilibrium in solutions under high pressure. Moskva, Izdatkhimdat, 1946. 117 p.





KRICHEVSKI, I. R.

14T111

USSR/Chemistry - Methanol
Chemistry - Solubility

Jun 1947

"The Solubility of Nitrogen and Carbon Dioxide in Methanol Under Pressure," I. R. Krichevski, E. S. Lebedeva, 6 pp

"Zhur Fiz Khim" Vol XXI, No 6

Discusses methods used, accompanied by graphs and tables. Concludes that measuring of nitrogen was done at temperatures of 0 - 75° C and pressures of 300 atmospheres. Measuring of carbon dioxide was done at temperatures of 0 - 75° C and pressures up to 70 atmospheres.

14T111

PROCESSES AND PROPERTIES INDEX

2

The system iron-nitrogen at high pressures. I. R. Krichevskii and N. E. Khasanova (Inst. Nitrogen Industry, Moscow). *J. Phys. Chem. (U.S.S.R.)* 21, 719-33 (1947) (in Russian); cf. *C.A.* 40, 3379. — It is shown by calcn. and expt. that Fe nitrides have a lower vapor pressure of N_2 and are capable of existing at lower N_2 pressures than hitherto believed. The older calcns. (cf., e.g., Remmett, *et al.*, *C.A.* 34, 2940) failed because they assumed the laws of perfect gases to be valid at extremely high pressures and the activity of the solid phase and the equil. diagram of the solid to be independent of pressure. When these assumptions are not made, the following equil. pressures (in atm.) of N_2 are found: α phase + γ phase + N_2 , 3100 at 800° and 2700 at 800°; α + γ + N_2 , 2300 at 650° and 2400 at 650°; γ + γ' + N_2 , 3100 at 650° and 2600 at 651°; and α + γ + γ' , 4000 at 850° and 1 (metastable) at 691°. The quaternary point α + γ + γ' + N_2 is at 550° and 3100 atm. These results were tested by heating Fe, pure or contg. 5.6% of Al_2O_3 and 1.4% of K_2O , prepd. from Fe_3N_2 in N_2 at 350-625° and 780-3800 atm. The concn. of N in the solid phase obtained varied irregularly so that no definite effect of pressure or of duration of heating could be detected. Previous "charging" of the solid with O_2 increased the N content up to 3.1%. It is not known why nitriding stopped before reaching equil. In agreement with calcn., the γ' phase is present (x-rays) at 475° at 2600 atm., but only the α phase is found at 2370 atm. The lattice spacing of the γ phase showed that it was satd. with N.

J. J. Bikerman

458.35A METALLURGICAL LITERATURE CLASSIFICATION

CELLS 100

KRICHEVSKIY, I

PA 26T59

USSR/Physics

Jan 1947

Thermodynamics
Quantum Theory

"On Anomalous Phase Transitions (Behavior of
Substances Near Their Critical Point)," I.
Krichevskiy, A. Rosen, Institute of Nitrogen In-
dustry, Moscow, 161 pp

"Acta Physicochimica URSS" Vol XXII, No 1

A critical analysis is given of Mayer's revision of
the Van der Waal classical theory of critical
phenomena. The existing difficulties are shown to
be certain misconceptions in thermodynamics.

BS

26T59

KRICHEVSKIY, I. R.

USSR/Physics
Hydrodynamics
Pressure, High

Sep 48

"Phase and Volumetric Relationships in Liquid-Gas Systems at High Pressures," I. R. Krichevskiy, G. D. Yefremova, State Inst of Nitrogen Ind, Moscow, 9 1/2 pp

"Zhur Fiz Khim" Vol XIII, No 9

States preference for working with concentrate solutions rather than dilute for obtaining greater accuracy in experiments, and confirms Krichevskiy-Plinskaya equation, but terms it empirical. Shows that molal volume for a saturated solution of a gas

56/49T101

USSR/Physics (Contd)

Sep 48

is a liquid is a linear function of the molal volume of the gas itself. Submitted 29 Jan 48.

56/49T101

KRICHEVSKIY, I. R.

Nitriding of Iron. I. R. Krichevskij and N. E. Khazanova (Inst. Nitrogen Ind., Moscow). *Zhur. Fiz. Khim.* 24, 1189-93 (1950); cf. *C.A.* 44, 10031c. —Specimens of Fe were nitrided at 376°, 400°, 450°, and 500° at atm. pressure in $\text{NH}_3\text{-H}_2$ mixts., and at 475° and 2900-3200 atm. pressure in N. H. W. Rathmann

KRICHEVSKIY, I. P.

PA 167T102

USSR/Physics - Solutions
Gas-Liquid Phase Feb 50

"Phase and Volumetric Relationships in Gas-Liquid Systems at High Pressures, Part II,"
I. P. Krichevskiy, G. D. Yefremova, Inst of Nitrogen Ind, Moscow

"Zhur Fiz Khim" Vol XXIV, No 2, pp 177-181

Determines combined solubility of nitrogen and hydrogen in benzene at 250 C and pressures up to 500 atm. Measures density of saturated solutions of nitrogen and hydrogen in benzene under same conditions. Experimental results

show validity of Krichevskiy-Il'inskaya equations for combined solubility of two gases in a liquid under pressure. Submitted 6 Apr 49.

167T102

A

Nitriding of iron. I. R. Krichevskii and N. E. Khazanova. *Doklady Akad. Nauk S.S.S.R.* 71, 481-4 (1950). Specimens of Fe were nitrided at 375, 400, 450, and 500° at atm. pressure in NH₃-H₂ mixts., the NH₃ content ranging from 38 to 63%. The nitriding reaction stopped almost completely as a limiting N content in the Fe was approached, the final N content increasing with increase in temp. or NH₃ concn. Nitriding is the result of 2 opposing reactions: (1) $2\text{NH}_3 + 2\text{xFe} \rightarrow 2\text{Fe}_x\text{N} + 3\text{H}_2$, and (2) $2\text{Fe}_x\text{N} \rightarrow 2\text{xFe} + \text{N}_2$. Reaction (1) is limited by rate of diffusion of N through Fe and Fe nitrides, and because of the low rate of diffusion through Fe nitrides the reaction slows down as the nitrides increase until equil. between the 2 reactions is attained. H. W. Rathmann

KRICHEVSKIY, I. R.; KHAZANOVA, N. E.

"Epsilon Phase of Nitrided Iron," Doklady Akademii Nauk SSSR 71 (1950) No 4,
pp 677/680.

Comments and Evaluation B-78524, 8 Sep 54

KRICHEVSKII, I. R.

Krichevskii, I. R. and Khazanova, N. E. Nitration of iron. Page 1188.

Inst. of the Nitrogen Industry
Moscow
January 13, 1950.

SO: Journal of Physical Chemistry, Vol. 74, No. 10. October 1950.

KRICHEVSKIY, I. P.

LC

190711

PA 190711

USSR/Chemistry - Gases at High Pressures May 51

"III. Phase and Volume Relationships in Systems Liquid-Gas at High Pressures," I. P. Krichevskiy, G. D. Efremova, Inst Nitrogen Industry, Moscow

"Zhur Fiz Khim" Vol XXV, No 5, pp 577-583

Dens soly and vol relationships of H₂ solns in MeOH at 250 and pressures of 50-600 atm and of N₂ at 250 and 250-750 atm. Measured solubilities and densities of solns of 4 H₂-N₂ mixts in MeOH at 250 and pressures up to 400 atm. Dens partial molar vols of H₂ and N₂ dissolved in MeOH at various pressures

LC

190711

USSR/Chemistry - Gases at High Pressures May 51
(Contd)

and 250. Found results to agree well with eqs for dil solns of nonelectrolytes.